

**State of Illinois**  
**Department of Natural Resources**  
*Office of Mines and Minerals*  
*Division of Abandoned Mined Lands*

Funded by the  
United States Department of Interior  
Federal Office of Surface Mining

**Bell & Zoller Mine #2 - UCO**  
**Reclamation Project**  
**AML-GFrE-1206**  
**Franklin County**  
**1LR**



**Bell & Zoller Mine #2 - UCO**  
**Franklin County**

PRE-BID MEETING

A PRE-BID MEETING IS SCHEDULED FOR THIS PROJECT AT 1:00 PM ON SEPTEMBER 10, 2012. ALL INTERESTED POTENTIAL BIDDERS ARE TO MEET AT THE ENTRANCE OF THE PROJECT SITE.

SCHEDULE OF DRAWINGS:

1. Cover Sheet
  2. Summary of Quantities/General Notes/Location Map
  3. Site Layout
  - 4-10. Existing Conditions
  - 11-17. Proposed Conditions
  - 18-37. Cross Sections
  38. Details and Tree Seedling Planting
- IDOT Standard 280001-05 Erosion Control

Prepared By IDNR Staff

Approved for Bidding:

Michael L. Woods, Director  
Office of Mines and Minerals

Approved By:

J. Greg Pinto, Acting Manager  
AML Division

Approved By:

Lawrence L. Lewis, P.E.  
IL Licensed Professional Engineer  
No. 0062-038880



Summary of Quantities

#	Item	Section	Quantity	Unit	Rates/Remarks
1	Special Clearing	201	1.0	L.S.	
2	Earth Excavation	202	383,469	C.Y.	Compaction per Section 205
3	Burning Mine Refuse Excavation	202	189,250	C.Y.	Compaction per Section 205
4	Mine Refuse Excavation	202	598,470	C.Y.	Compaction per Section 205
5	Channel Excavation	IDOT 203	2,306	C.Y.	
6	Seeding	250	93.0	Acre	
7	Nitrogen Fertilizer Nutrient	250	18,600	Pound	See Schedule Below
8	Phosphorus Fertilizer Nutrient	250	9,300	Pound	
9	Potassium Fertilizer Nutrient	250	9,300	Pound	
10	Agricultural Ground Limestone	250	930	Ton	
11	Mulch, Method 2, Procedure 1	IDOT 251	93.0	Acre	2 Tons/Acre
12	Seedlings	IDOT 253	11.0	Unit	100 seedlings/unit
13	Mine Refuse Treatment	255	1,038.0	Ton	16 tons/acre
14	Mowing	258	93.0	Acre	
15	Inlet Protection	280	7.0	Each	IDOT Std. 280001-05
16	Perimeter Erosion Barrier	280	3,066	Foot	IDOT Std. 280001-05
17	Stone Riprap, A-3	IDOT 281	1,586	S.Y.	
18	Stone Riprap, A-4	IDOT 281	589	S.Y.	
19	Filter Fabric for use w/Riprap	IDOT 282	589	S.Y.	
20	Special Excelsior Blanket	286	12,737	S.Y.	8' Width
21	Aggregate Surface Course, Type B	IDOT 402	1,883	Ton	CA-6
22	Removal of Existing Structures	501	1.0	L.S.	
23	Pipe Culvert, 30", P.E. w/Smooth Interior	IDOT 542	230.0	Foot	Type 1
24	Adjusting Sanitary Sewers (8" or Less)	IDOT 563	130.0	Foot	4" PVC
25	Adjusting Water Service Lines	IDOT 563	130.0	Foot	1" PVC
26	Dewatering Impoundments	614	1.0	L.S.	
27	Mobilization	671	1.0	L.S.	

GENERAL NOTES

Unless otherwise noted on the plans, all disturbed areas within the construction limits will be amended with agricultural ground limestone, fertilizer nutrients, seeded and mulched at the required rates specified in the plans.

The contractor is responsible for visiting the site and familiarizing himself with the existing conditions and the proposed reclamation work prior to submitting a bid.

The contractor shall provide and pay for all field engineering services to execute the project as specified in the Field Engineering section of the Special Provisions.

The contractor is responsible for locating and protecting all existing utility lines pertaining to the work. Water service lines to be adjusted, that require more than one day to adjust, shall be temporarily bypassed at no additional cost. The contractor shall notify the engineer 24 hours in advance of any adjustments.

Unless noted on the plans, all onsite access roads may be used for construction and must be maintained during construction and restored to original or better condition at the completion of work by the contractor. Access roads to the site as designated in the plans are to be maintained to the satisfaction of the engineer. Haul roads with construction traffic shall be wetted to control dust as needed. All dust control measures are incidental to the contract price.

The construction limits will be staked by the contractor prior to construction. The contractor is responsible for the repair and or restitution at his own expense for all damages done to any area outside the construction limits.

Application rates specified in the plans are shown in the Summary of Quantities--Rates/Remarks column.

CONSTRUCTION NOTES

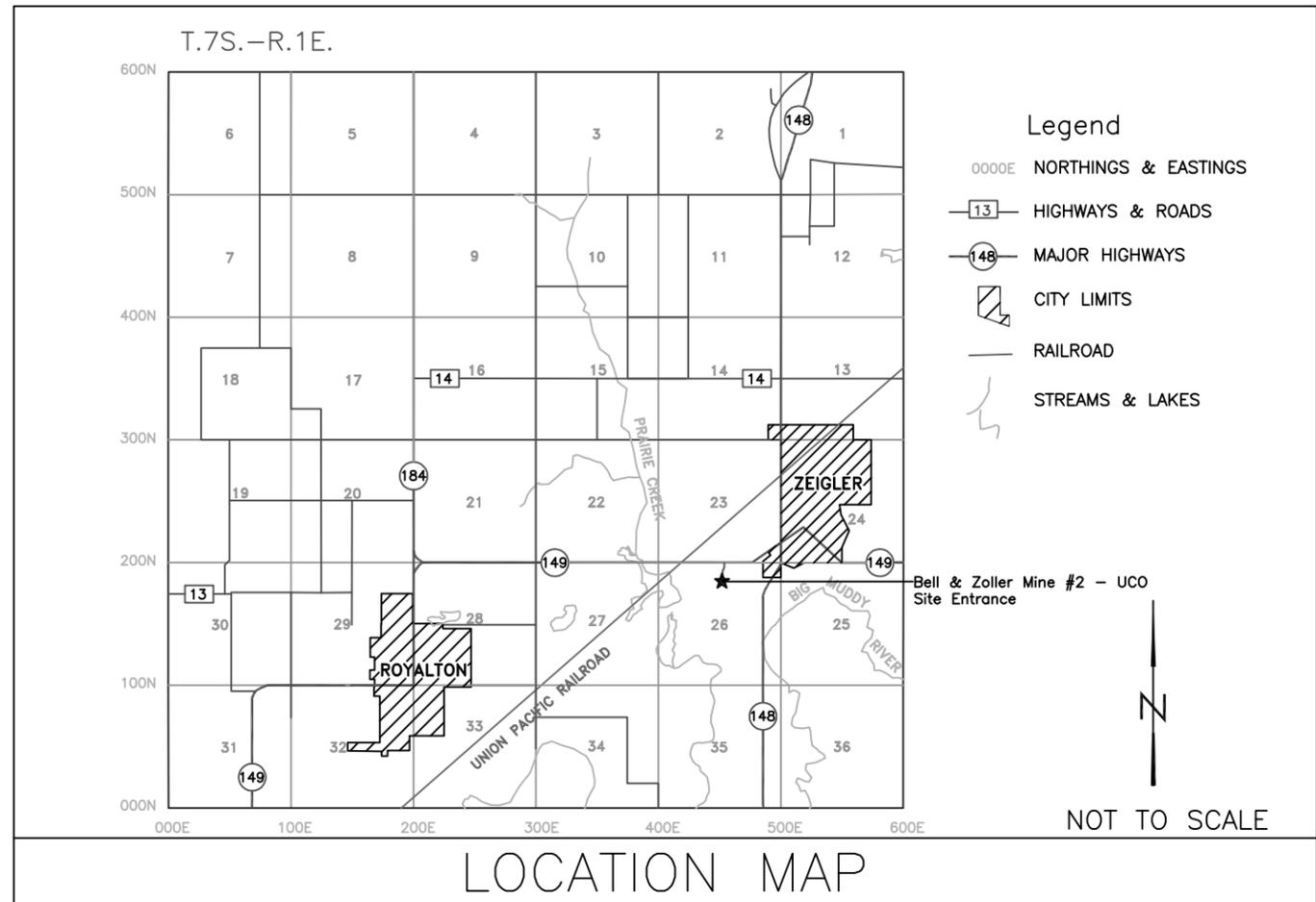
**BURIAL/REMOVAL OF MATERIAL**—Concrete and masonry debris designated for burial by the engineer shall be buried at least three feet below proposed final grade. Onsite organic debris and trash shall be disposed of in an engineer approved offsite landfill in accordance with Sections 201 and 501 of the Special Provisions.

**TREE REMOVAL**—Trees cleared from the shall be disposed of onsite per Section 201 of the Special Provisions. Clearing of all trees may only occur from October 1st to March 31st. No trees may be removed from outside this window.

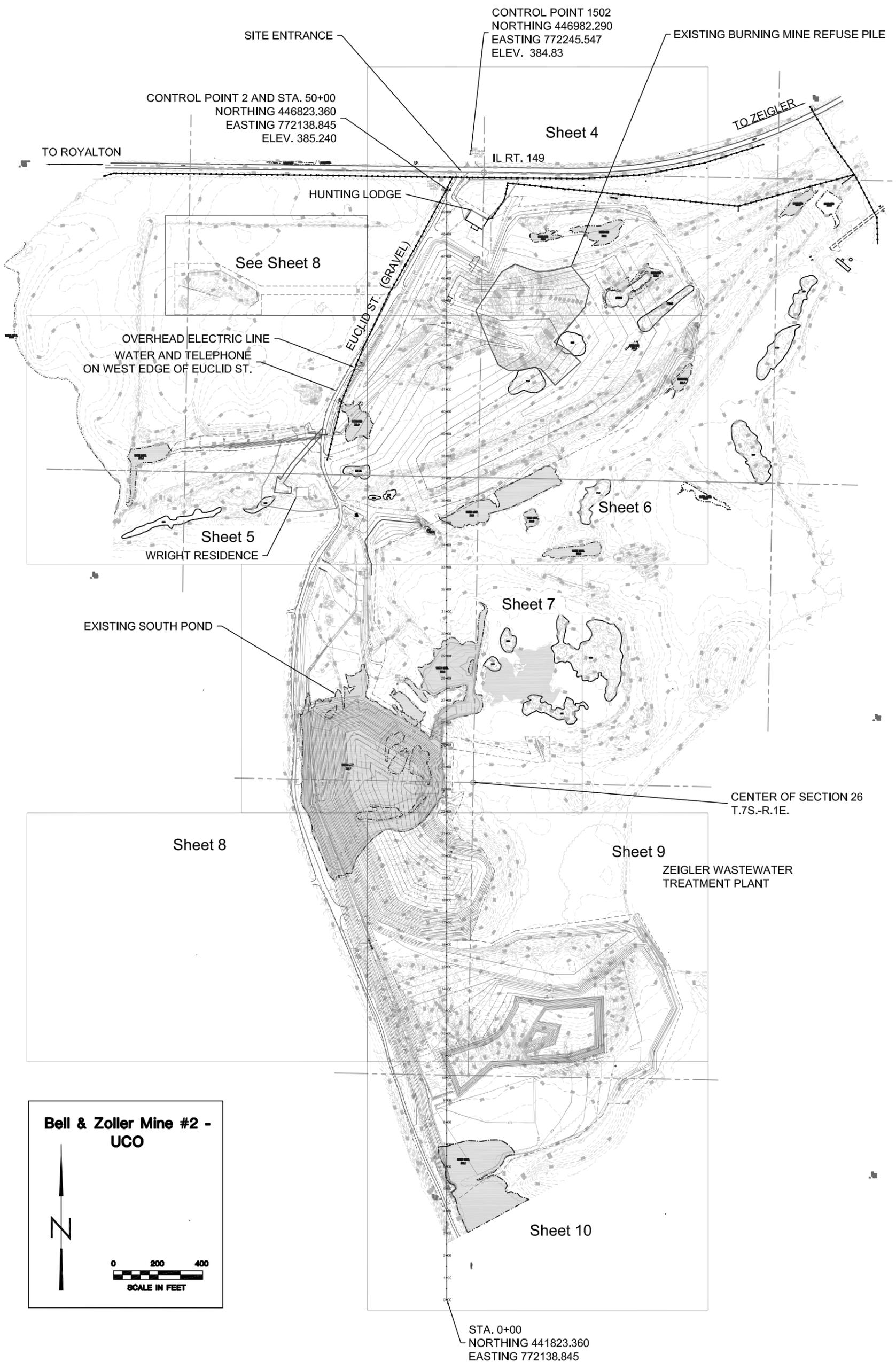
**EROSION CONTROL**—The contractor shall schedule his operations and take such precautions that may be necessary to prevent or minimize erosion. Failure to comply with this requirement shall cause the contractor to be fully responsible for repairing any eroded areas and cleaning up areas or drainage structures that have become silted in or damaged.

**AGRICULTURAL GROUND LIMESTONE**—Immediately prior to seed bed preparation, fertilizer nutrients and agricultural ground limestone shall be uniformly spread at the rates specified in the plans.

**MULCHING**—Within 24 hours from the time seeding has been performed, the seeded area shall be given a covering of mulch at the rates specified in the plans. The mulch is to be anchored into the soil in accordance with the requirements for method 2, procedure 1 of Article 251.03 of the Standard Specifications. If Excelsior or Special Excelsior Blanket is to be used, the blanket shall be placed the same day that the areas are seeded.



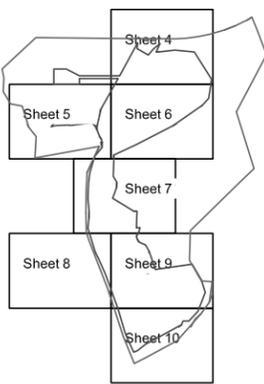
Schedule of Seeding, Fertilizer Nutrients, Mulch, and Mowing			
ITEM (unit)	FALL 2013 AUG. 20 – SEPT. 30	SPRING 2014 JAN 1 – MAR. 15	TOTAL QUANTITY
SEEDING (acres)	93.0		93.0
AGRICULTURAL GROUND LIMESTONE (tons)	930 10 Tons/Acre	Actual Date to be Approved by Engineer	930
NITROGEN FERTILIZER NUTRIENT (pounds)	9,300 100 Lb./Acre	9,300 100 Lb./Acre	18,600
PHOSPHOROUS FERTILIZER NUTRIENT (pounds)	9,300 100 Lb./Acre		9,300
POTASSIUM FERTILIZER NUTRIENT (pounds)	9,300 100 Lb./Acre		9,300
MULCH, METHOD 2 PROCEDURE 1 (acre)	93.0 2 Tons/Acre		93.0
MOWING (acres)	Mowing to be completed prior to June 30, 2014 with Engineer approval.		93.0



**Bell & Zoller Mine #2 - UCO**

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SCALE IN FEET



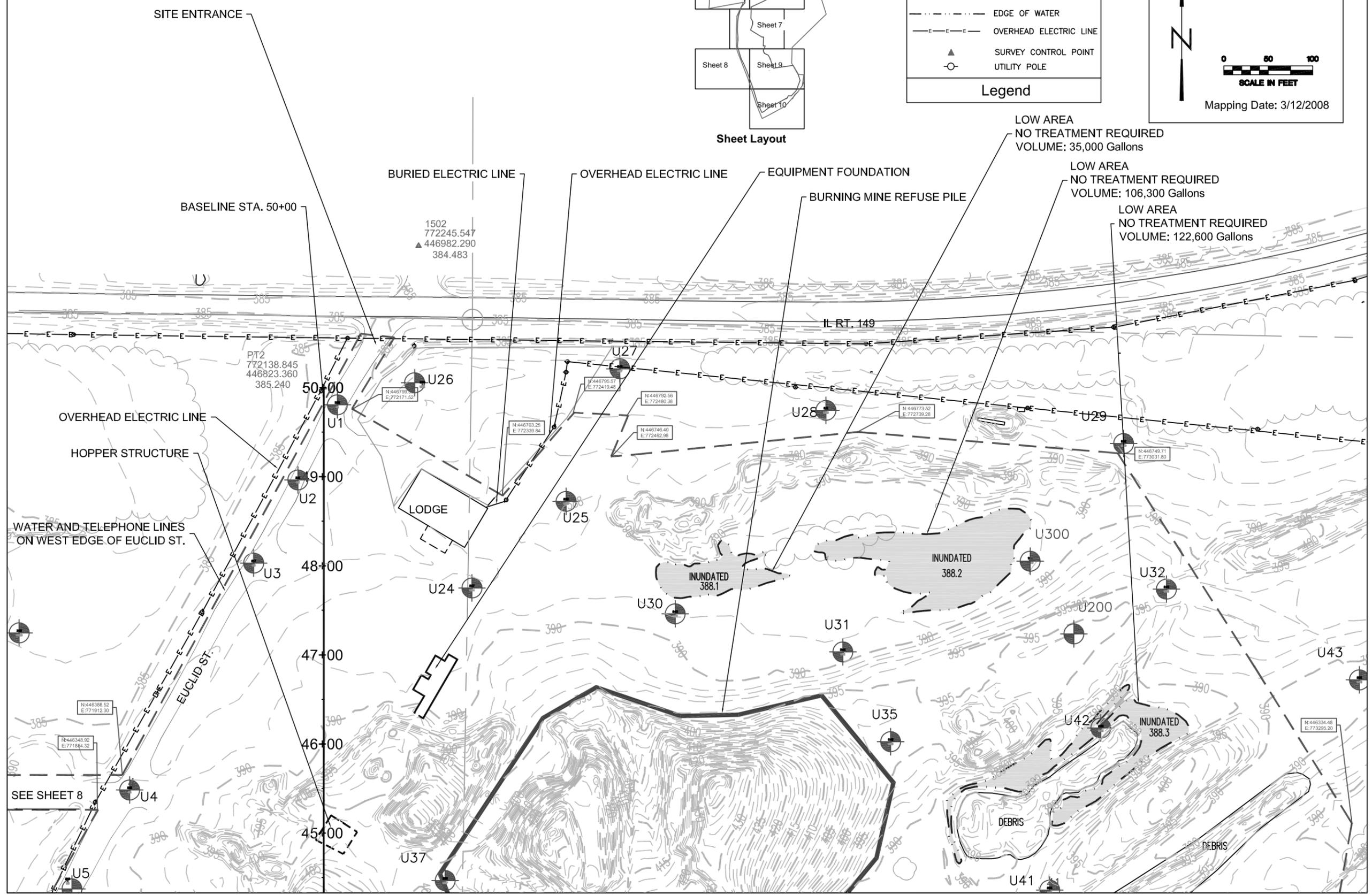
**Legend**

- EXISTING CONTOUR
- - - PROPOSED CONTOUR
- - - CONSTRUCTION LIMITS
- EDGE OF ROAD
- ~ TREELINE
- - - EDGE OF WATER
- - - OVERHEAD ELECTRIC LINE
- ▲ SURVEY CONTROL POINT
- UTILITY POLE

**Bell & Zoller Mine #2  
UCO**

SCALE IN FEET

Mapping Date: 3/12/2008



LOW AREA  
NO TREATMENT REQUIRED  
VOLUME: 35,000 Gallons

LOW AREA  
NO TREATMENT REQUIRED  
VOLUME: 106,300 Gallons

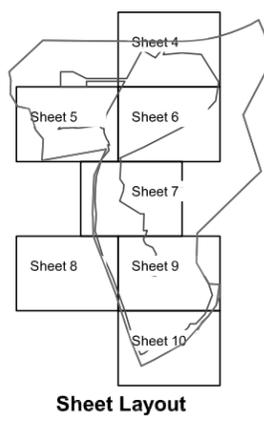
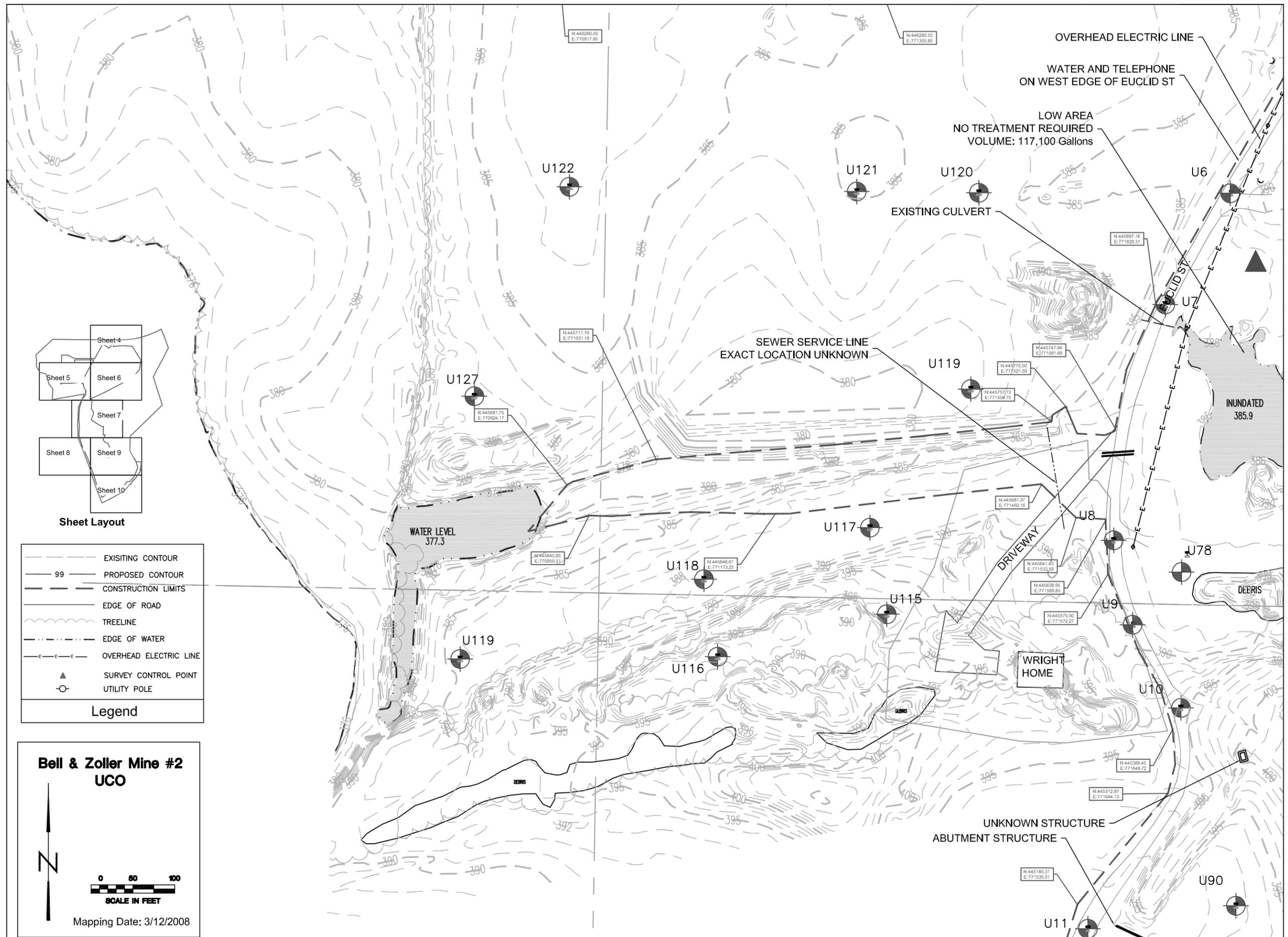
LOW AREA  
NO TREATMENT REQUIRED  
VOLUME: 122,600 Gallons

State of Illinois  
Department of Natural Resources

Bell & Zoller Mine #2 - UCO  
Reclamation Project  
AML-GFrE-1206  
Franklin County

Drawn By: J.L. \_\_\_\_\_ Date: 7/2012  
Checked By: M.T. \_\_\_\_\_ 8/2012

Bell & Zoller Mine #2 - UCO  
Existing Conditions  
Sheet 4 of 38



**Legend**

	EXISTING CONTOUR
	PROPOSED CONTOUR
	CONSTRUCTION LIMITS
	EDGE OF ROAD
	TREELINE
	EDGE OF WATER
	OVERHEAD ELECTRIC LINE
	SURVEY CONTROL POINT
	UTILITY POLE

**Bell & Zoller Mine #2 UCO**

SCALE IN FEET

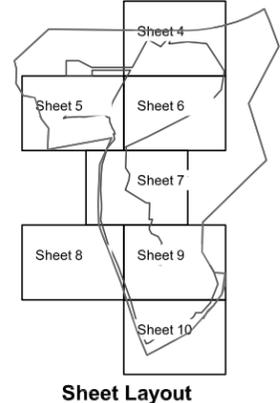
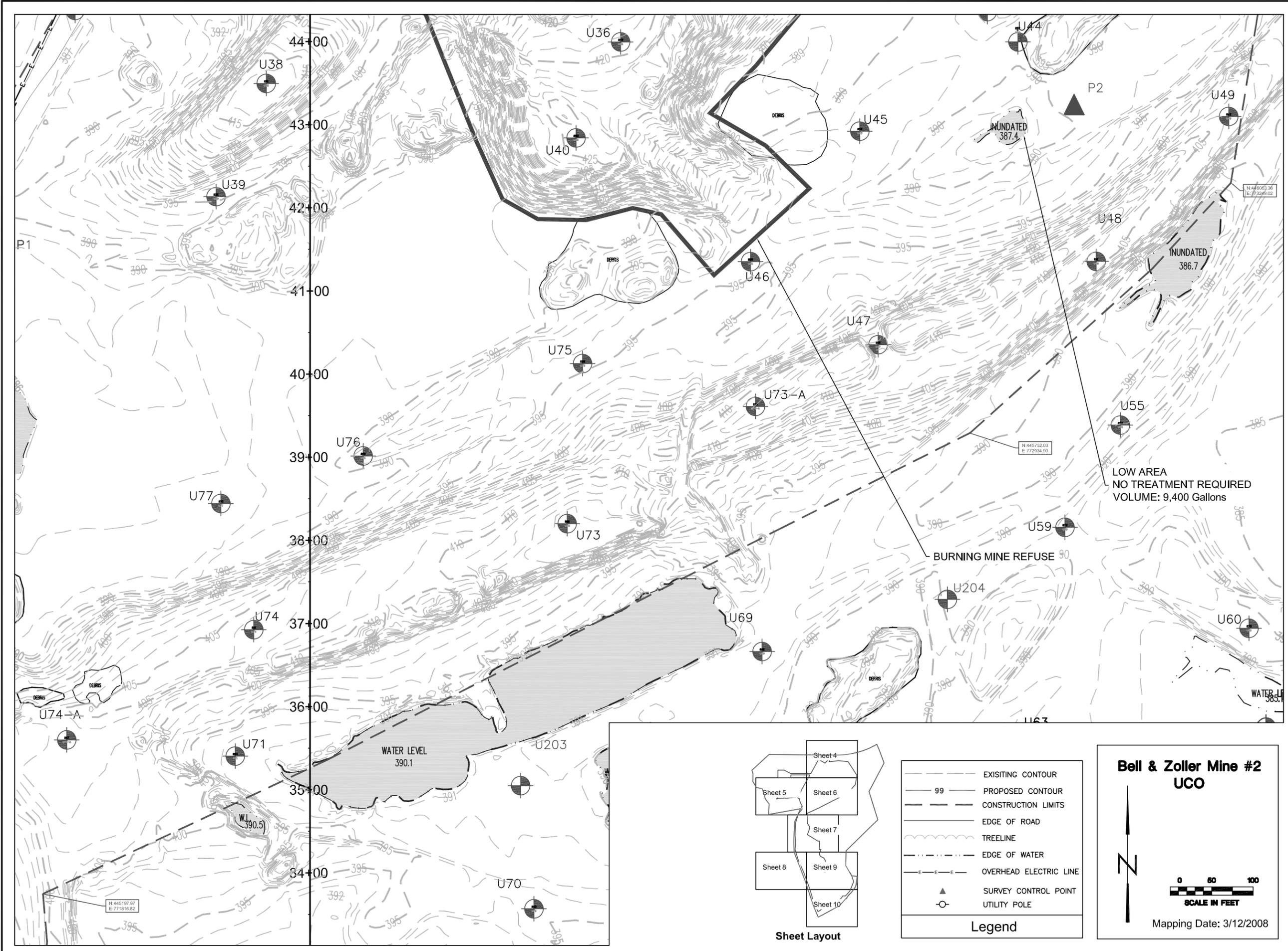
Mapping Date: 3/12/2008

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Bell & Zoller Mine #2 - UCO  
Existing Conditions  
Sheet 5 of 38



	EXISTING CONTOUR
	PROPOSED CONTOUR
	CONSTRUCTION LIMITS
	EDGE OF ROAD
	TREELINE
	EDGE OF WATER
	OVERHEAD ELECTRIC LINE
	SURVEY CONTROL POINT
	UTILITY POLE

Legend

**Bell & Zoller Mine #2  
UCO**

SCALE IN FEET

Mapping Date: 3/12/2008

ABUTMENT STRUCTURE

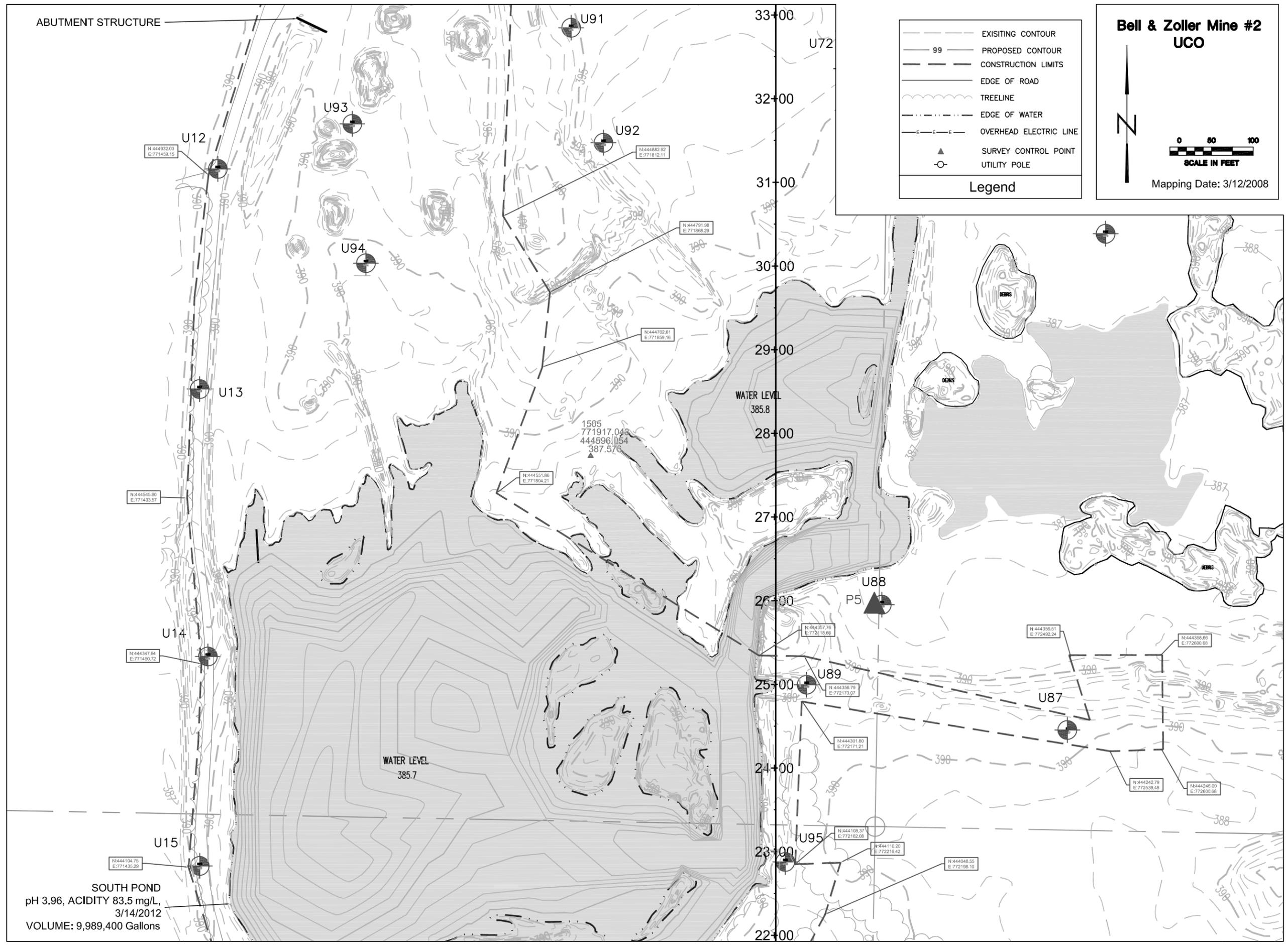
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	PROPOSED CONTOUR
	CONSTRUCTION LIMITS
	EDGE OF ROAD
	TREELINE
	EDGE OF WATER
	OVERHEAD ELECTRIC LINE
	SURVEY CONTROL POINT
	UTILITY POLE

**Legend**

**Bell & Zoller Mine #2  
UCO**

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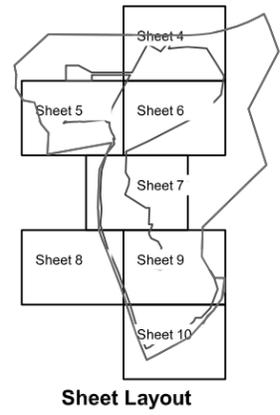
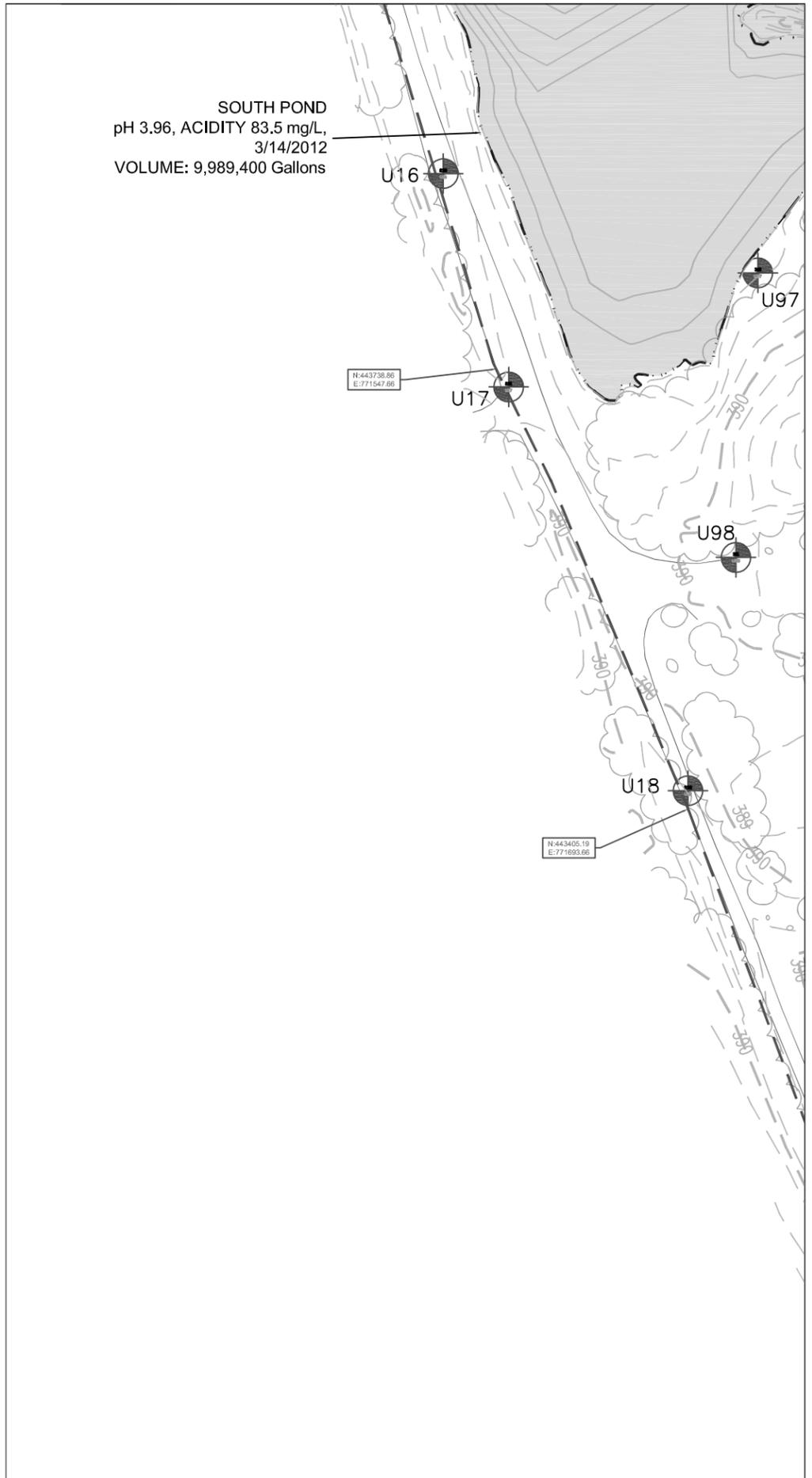
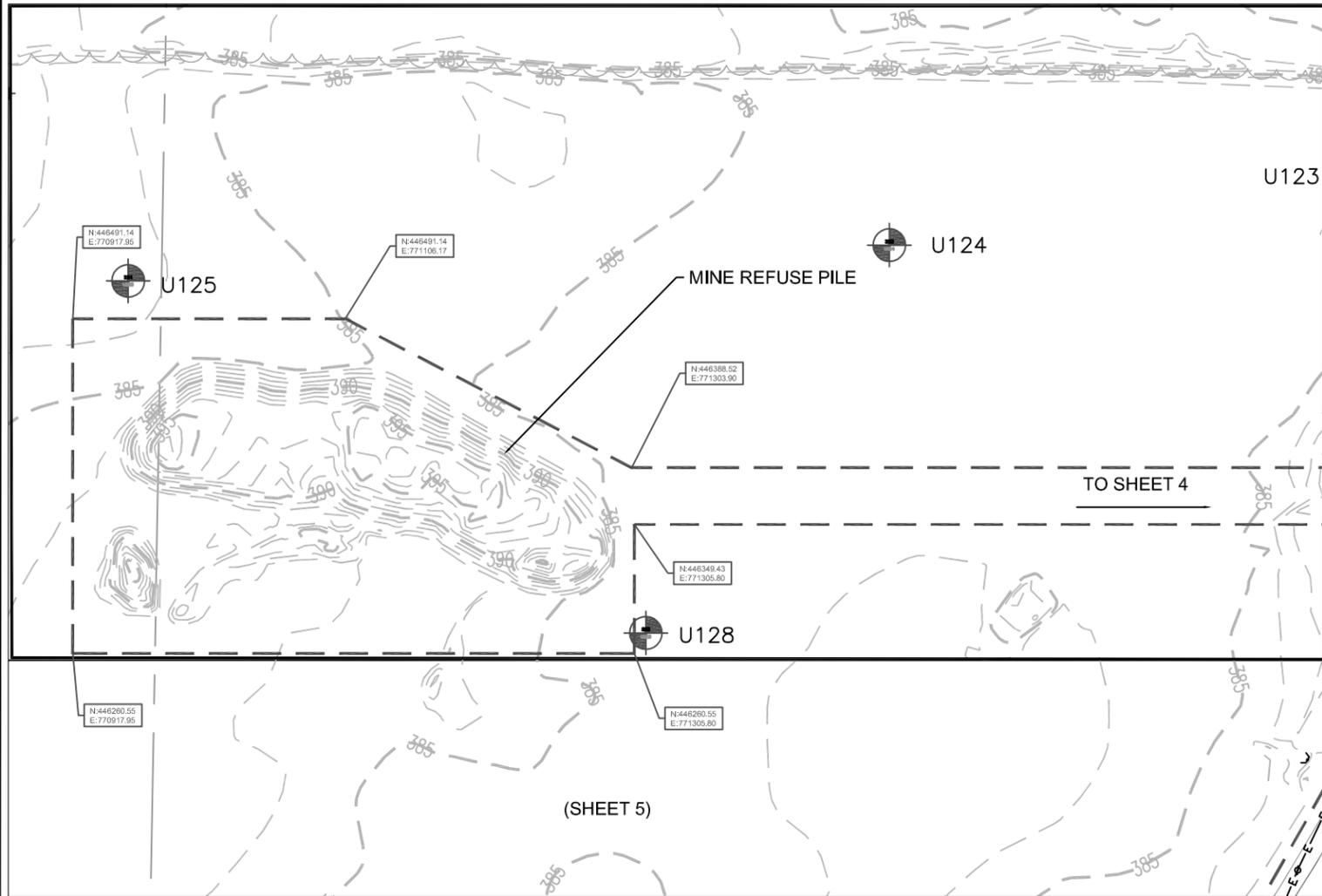
**SOUTH POND**  
 pH 3.96, ACIDITY 83.5 mg/L,  
 3/14/2012  
 VOLUME: 9,989,400 Gallons

State of Illinois  
 Department of Natural Resources

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Bell & Zoller Mine #2 - UCO  
 Existing Conditions  
 Sheet 7 of 38



	EXISTING CONTOUR
	PROPOSED CONTOUR
	CONSTRUCTION LIMITS
	EDGE OF ROAD
	TREELINE
	EDGE OF WATER
	OVERHEAD ELECTRIC LINE
	SURVEY CONTROL POINT
	UTILITY POLE

Legend

**Bell & Zoller Mine #2  
UCO**

SCALE IN FEET

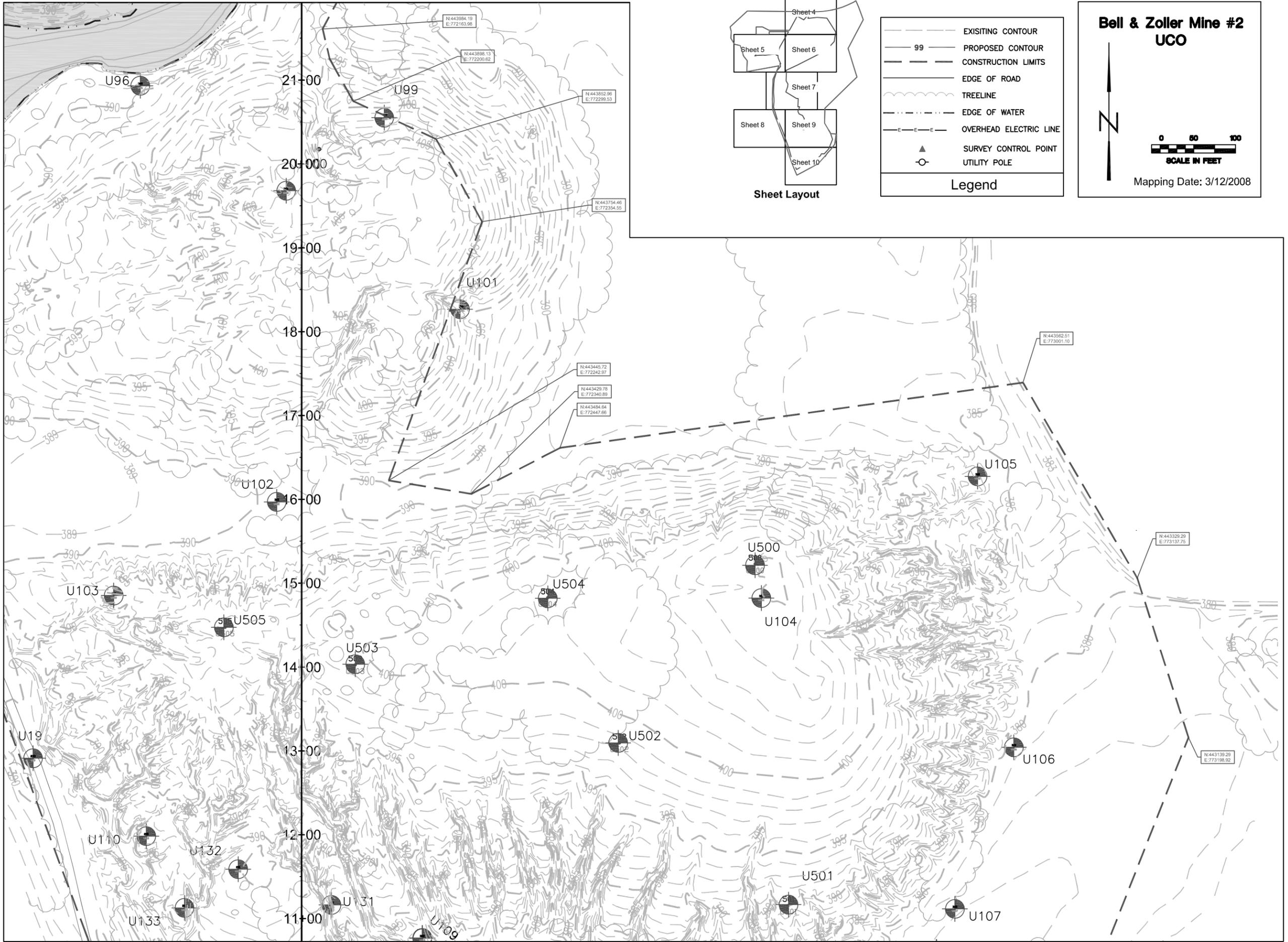
Mapping Date: 3/12/2008

State of Illinois  
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Bell & Zoller Mine #2 - UCO  
 Reclamation Project  
 AML-GFrE-1206  
 Franklin County

Drawn By: J.L. \_\_\_\_\_ Date: 7/2012: \_\_\_\_\_  
 Checked By: M.T. \_\_\_\_\_ Date: 8/2012: \_\_\_\_\_

Bell & Zoller Mine #2 - UCO  
 Existing Conditions  
 Sheet 8 of 38

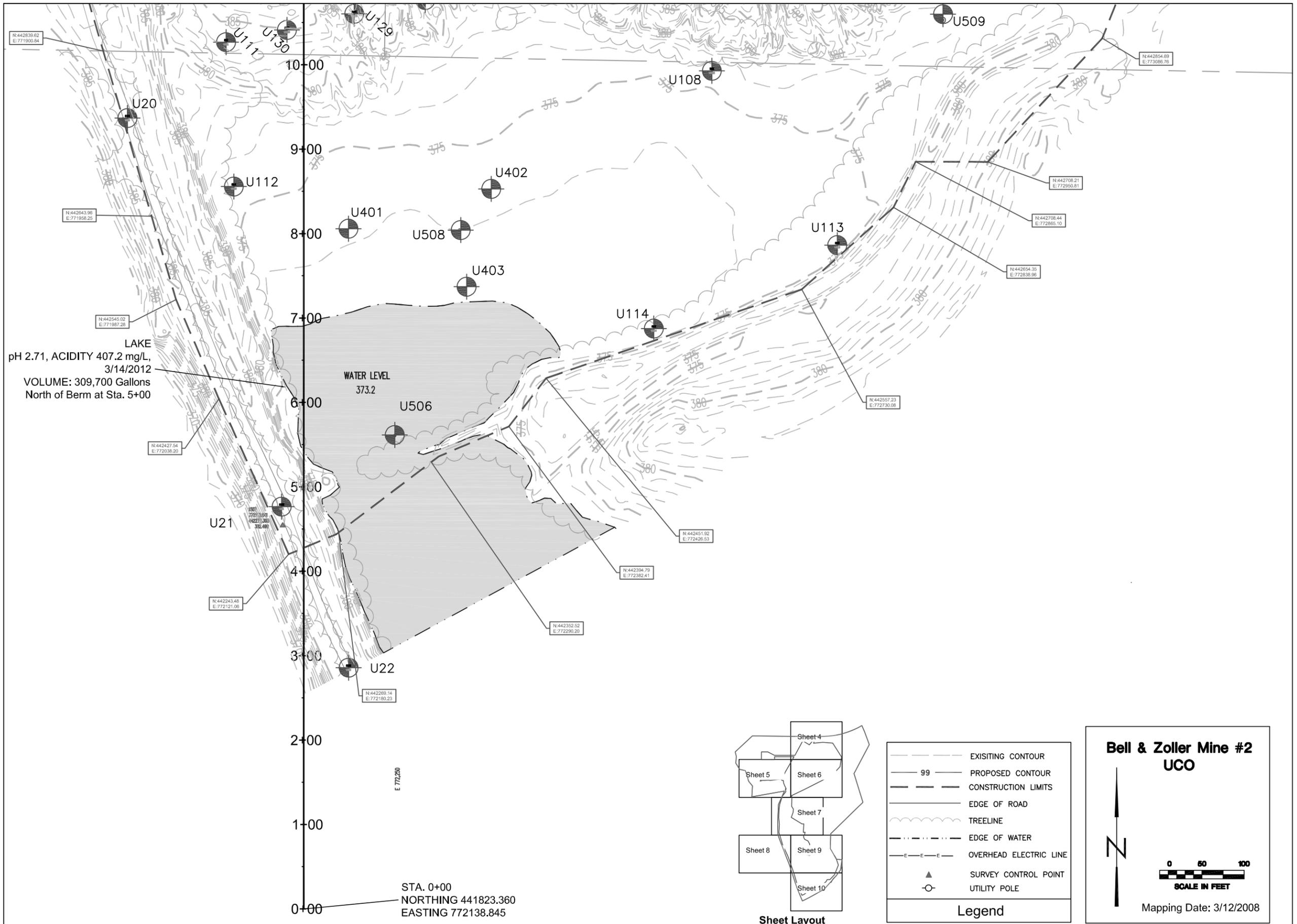


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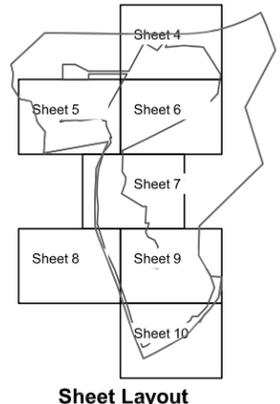
Bell & Zoller Mine #2 - UCO  
Existing Conditions  
Sheet 9 of 38



LAKE  
 pH 2.71, ACIDITY 407.2 mg/L,  
 3/14/2012  
 VOLUME: 309,700 Gallons  
 North of Berm at Sta. 5+00

WATER LEVEL  
 373.2

STA. 0+00  
 NORTHING 441823.360  
 EASTING 772138.845



	EXISTING CONTOUR
	PROPOSED CONTOUR
	CONSTRUCTION LIMITS
	EDGE OF ROAD
	TREELINE
	EDGE OF WATER
	OVERHEAD ELECTRIC LINE
	SURVEY CONTROL POINT
	UTILITY POLE

**Bell & Zoller Mine #2  
UCO**

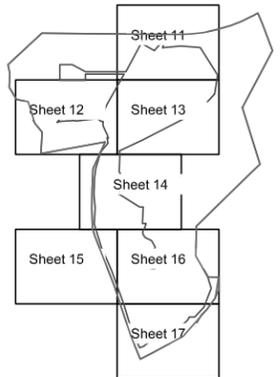
SCALE IN FEET  
 Mapping Date: 3/12/2008

State of Illinois  
 Department of Natural Resources

Bell & Zoller Mine #2 - UCO  
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 Franklin County

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Bell & Zoller Mine #2 - UCO  
 Existing Conditions  
 Sheet 10 of 38



Sheet Layout

	EXISTING CONTOUR
	PROPOSED CONTOUR
	CONSTRUCTION LIMITS
	EDGE OF ROAD
	TREELINE
	OVERHEAD ELECTRIC LINE
	UTILITY POLE

Legend

**Bell & Zoller Mine #2  
UCO**

SCALE IN FEET

Mapping Date: 3/12/2008

SITE ENTRANCE  
BEGIN AGGREGATE SURFACE COURSE, TYPE B  
1738' LENGTH X 16' WIDE, 6" THICK  
973 TONS REQUIRED,  
(AFTER COMPLETION OF GRADING WORK)

LODGE PARKING LOT  
AGGREGATE SURFACE  
COURSE, TYPE B, 6" THICK,  
798 TONS REQUIRED

LODGE WATER AND SEWER LINE  
EXACT LOCATION UNKNOWN  
ADJUST IF NECESSARY

EQUIPMENT FOUNDATION  
TO BE REMOVED

PROPOSED EARTH EXCAVATION AREA  
AND MINE REFUSE FILL AREA  
BELOW EXISTING MINE REFUSE SURFACE

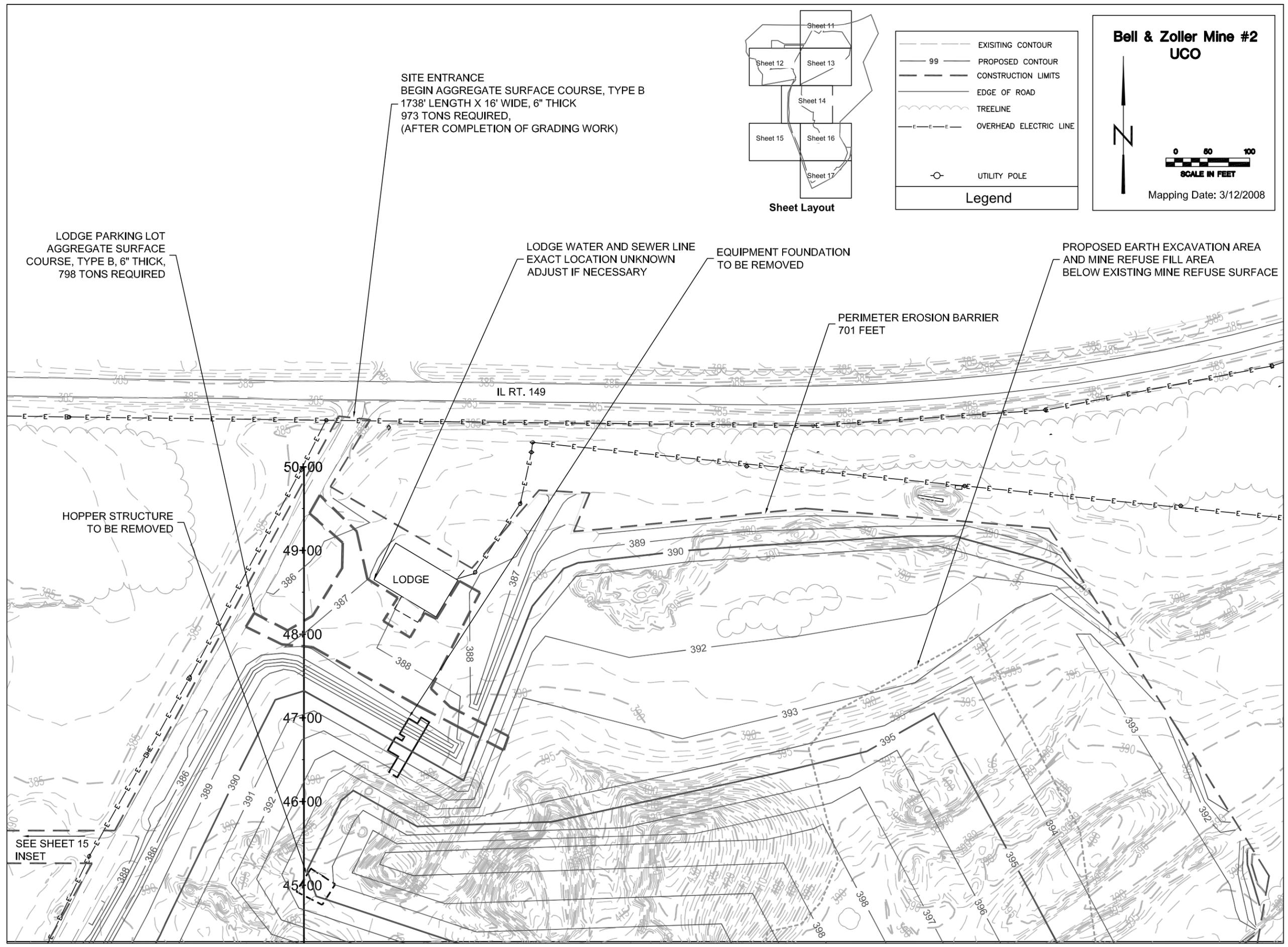
PERIMETER EROSION BARRIER  
701 FEET

HOPPER STRUCTURE  
TO BE REMOVED

LODGE

IL RT. 149

SEE SHEET 15  
INSET

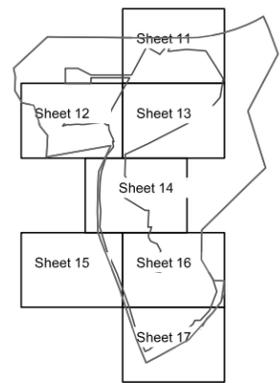
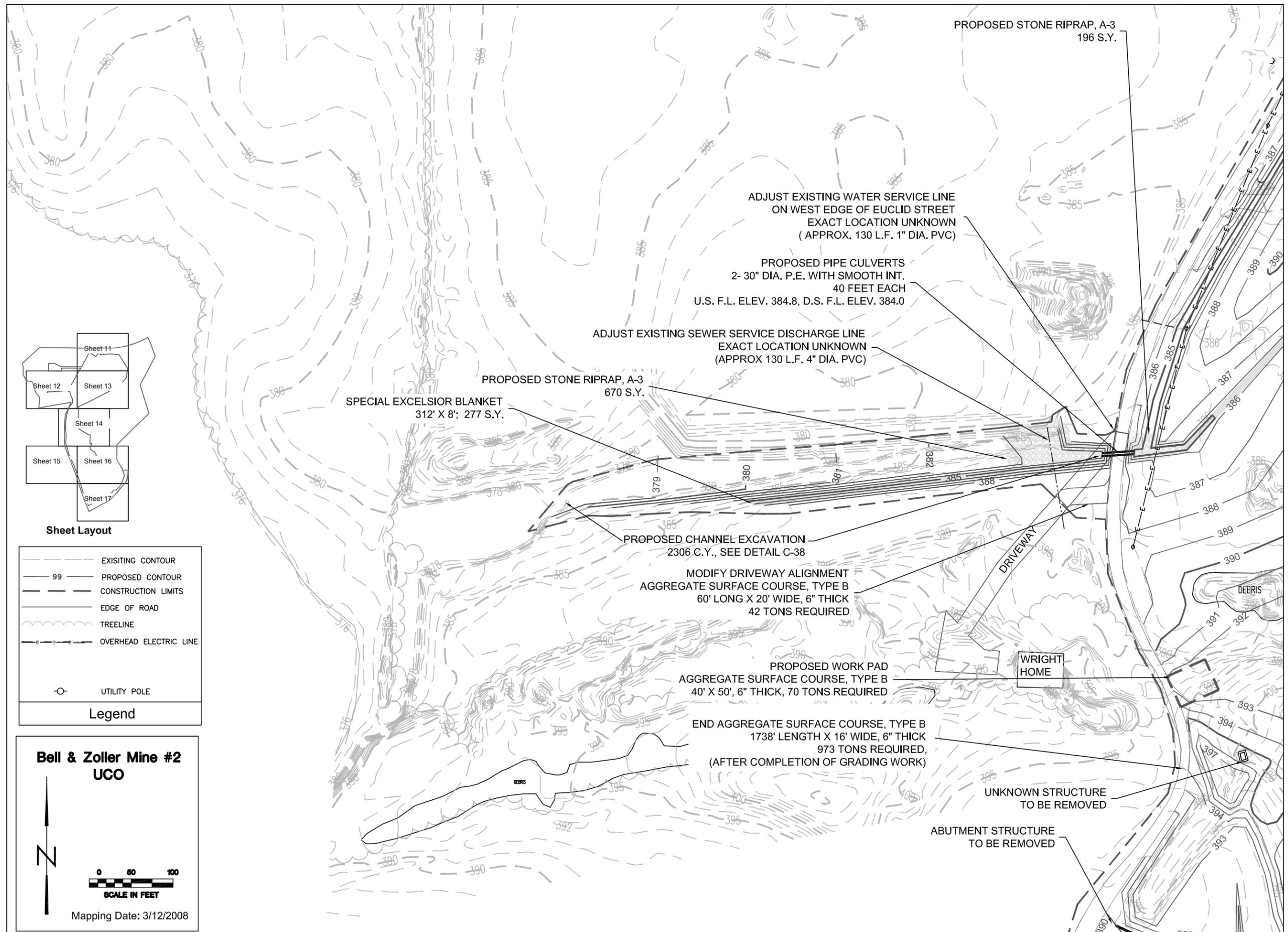


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Bell & Zoller Mine #2 - UCO  
Proposed Conditions  
Sheet 11 of 38



Sheet Layout

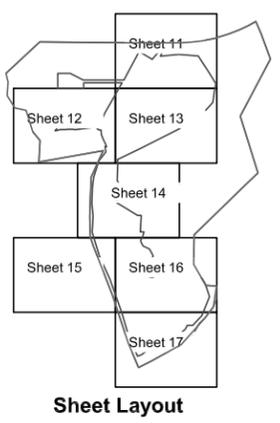
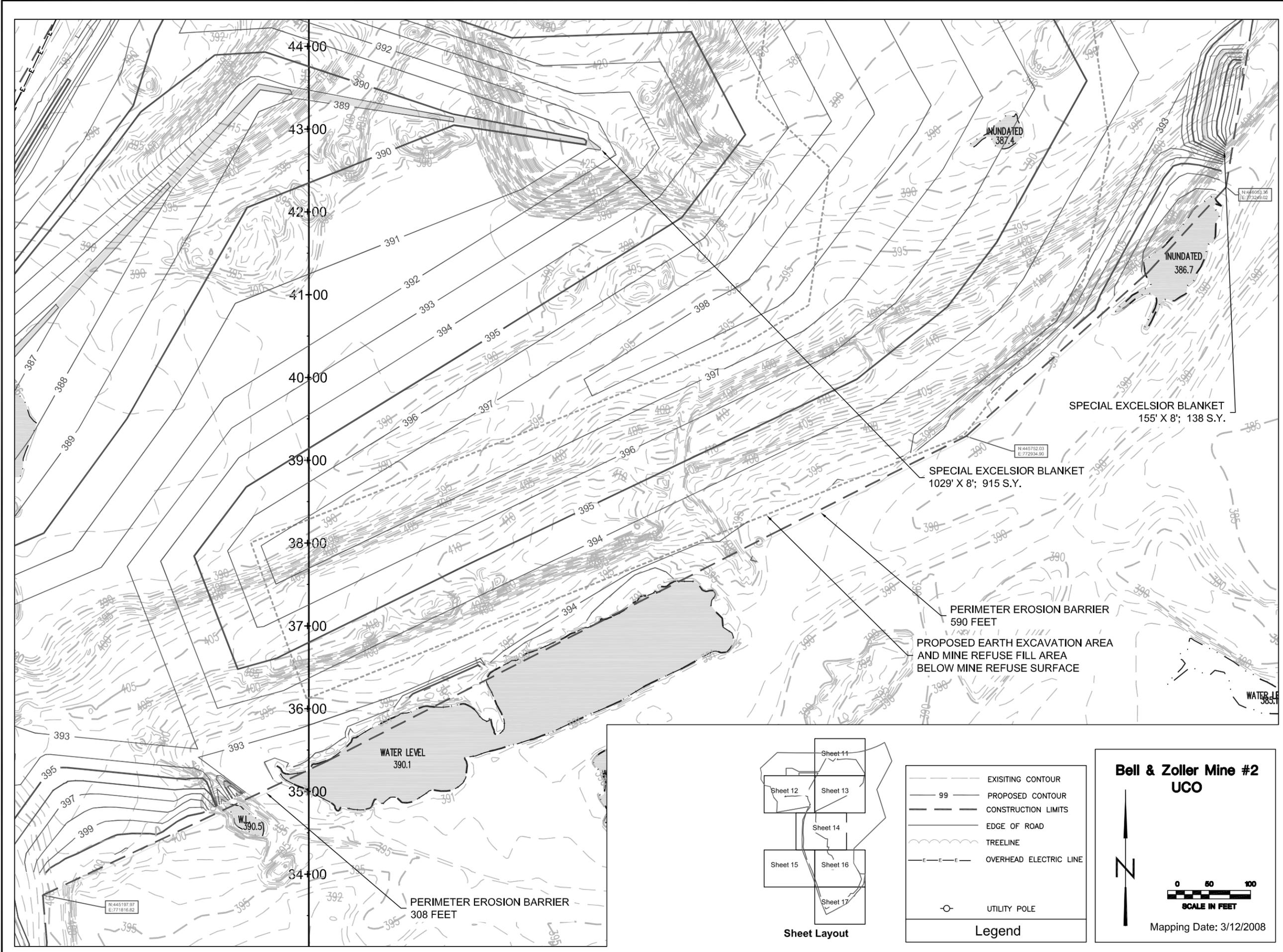
	EXISTING CONTOUR
	PROPOSED CONTOUR
	CONSTRUCTION LIMITS
	EDGE OF ROAD
	TREELINE
	OVERHEAD ELECTRIC LINE
	UTILITY POLE

Legend

**Bell & Zoller Mine #2 UCO**

SCALE IN FEET

Mapping Date: 3/12/2008



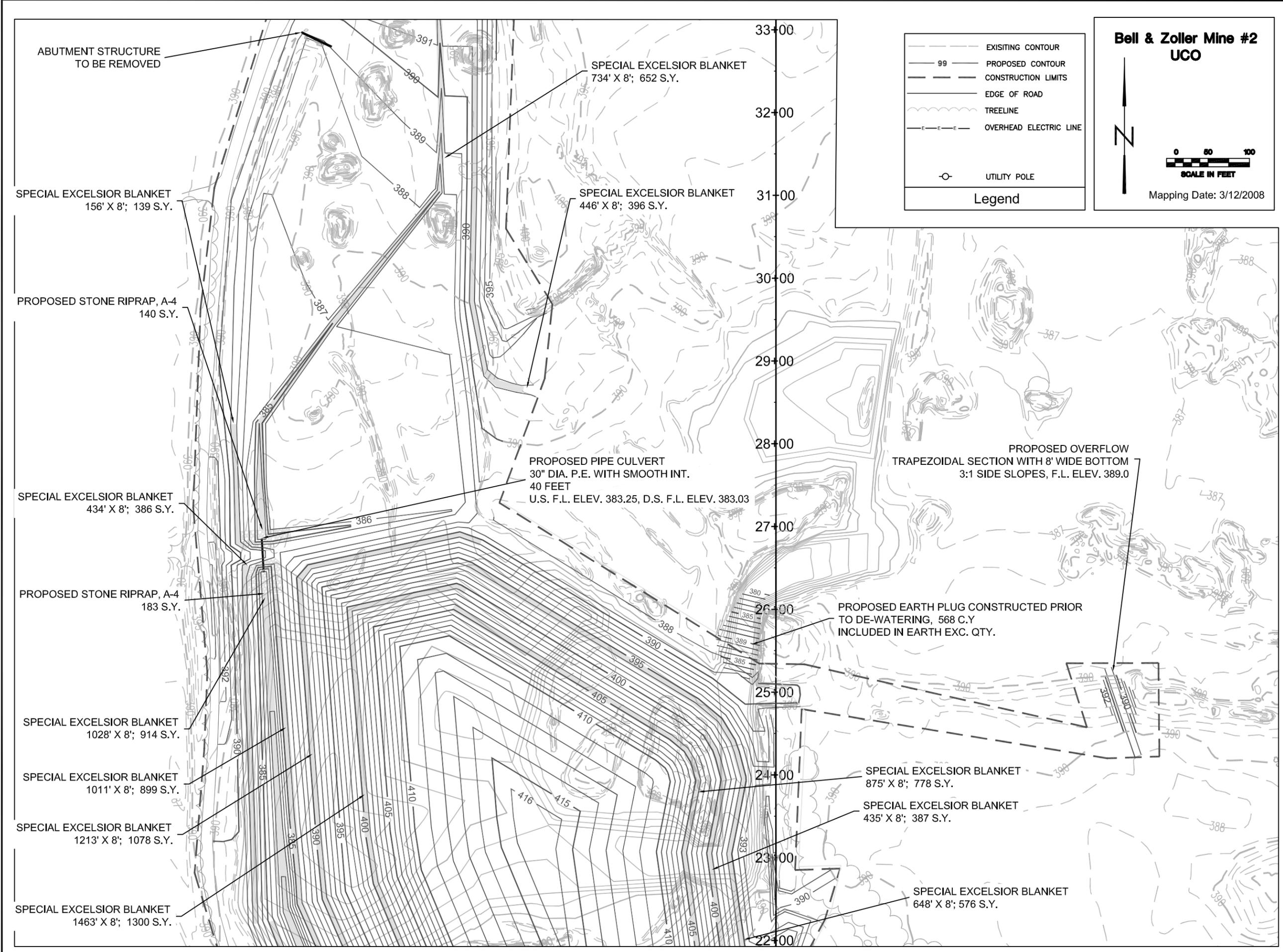
**Legend**

	EXISTING CONTOUR
	PROPOSED CONTOUR
	CONSTRUCTION LIMITS
	EDGE OF ROAD
	TREELINE
	OVERHEAD ELECTRIC LINE
	UTILITY POLE

**Bell & Zoller Mine #2  
UCO**

SCALE IN FEET

Mapping Date: 3/12/2008



- - - - - EXISTING CONTOUR  
 - 99 - - - - - PROPOSED CONTOUR  
 - - - - - CONSTRUCTION LIMITS  
 - - - - - EDGE OF ROAD  
 ~~~~~ TREELINE  
 - E - E - E - OVERHEAD ELECTRIC LINE  
 ○ UTILITY POLE

**Legend**

**Bell & Zoller Mine #2 UCO**

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SCALE IN FEET

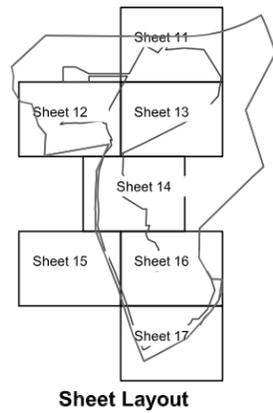
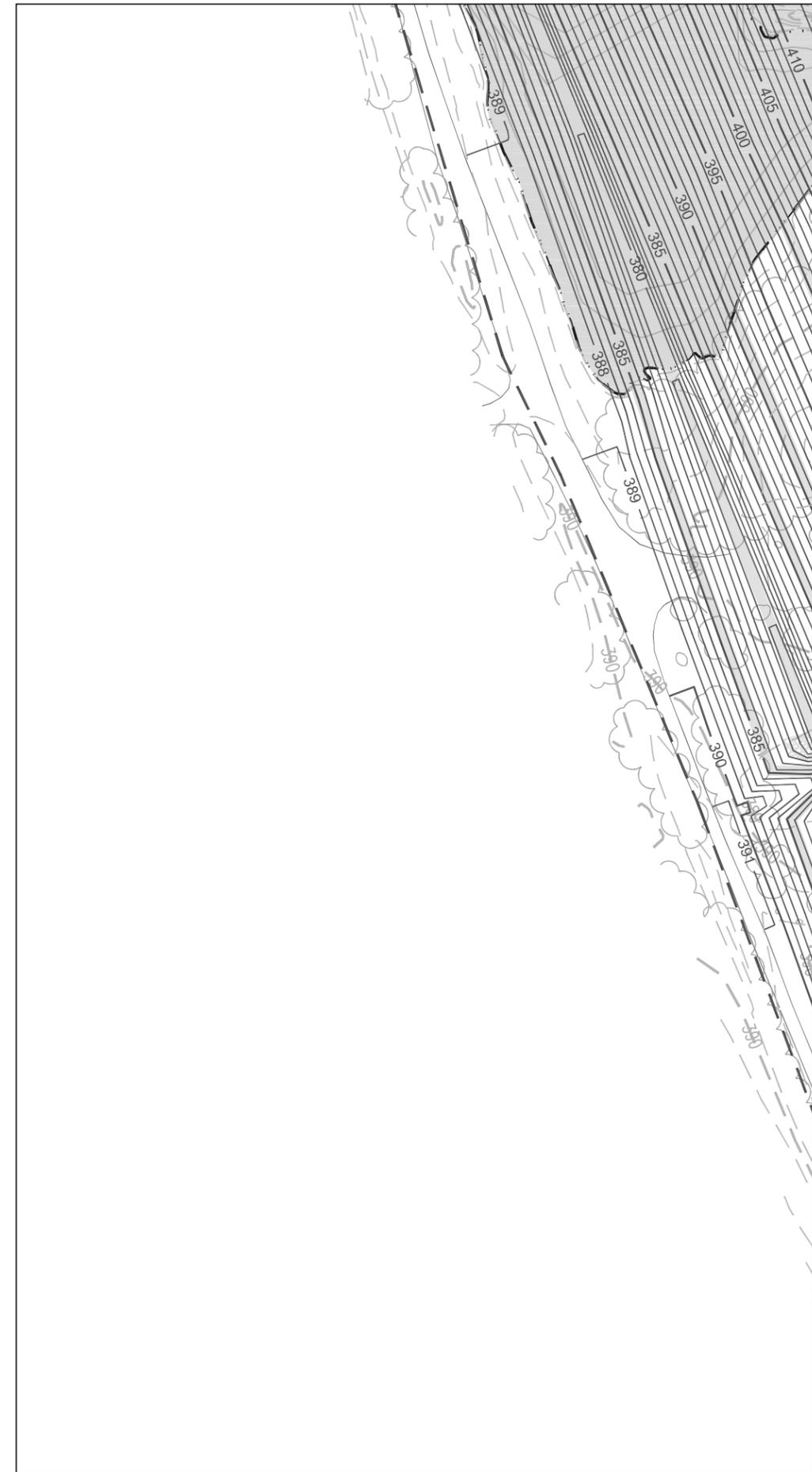
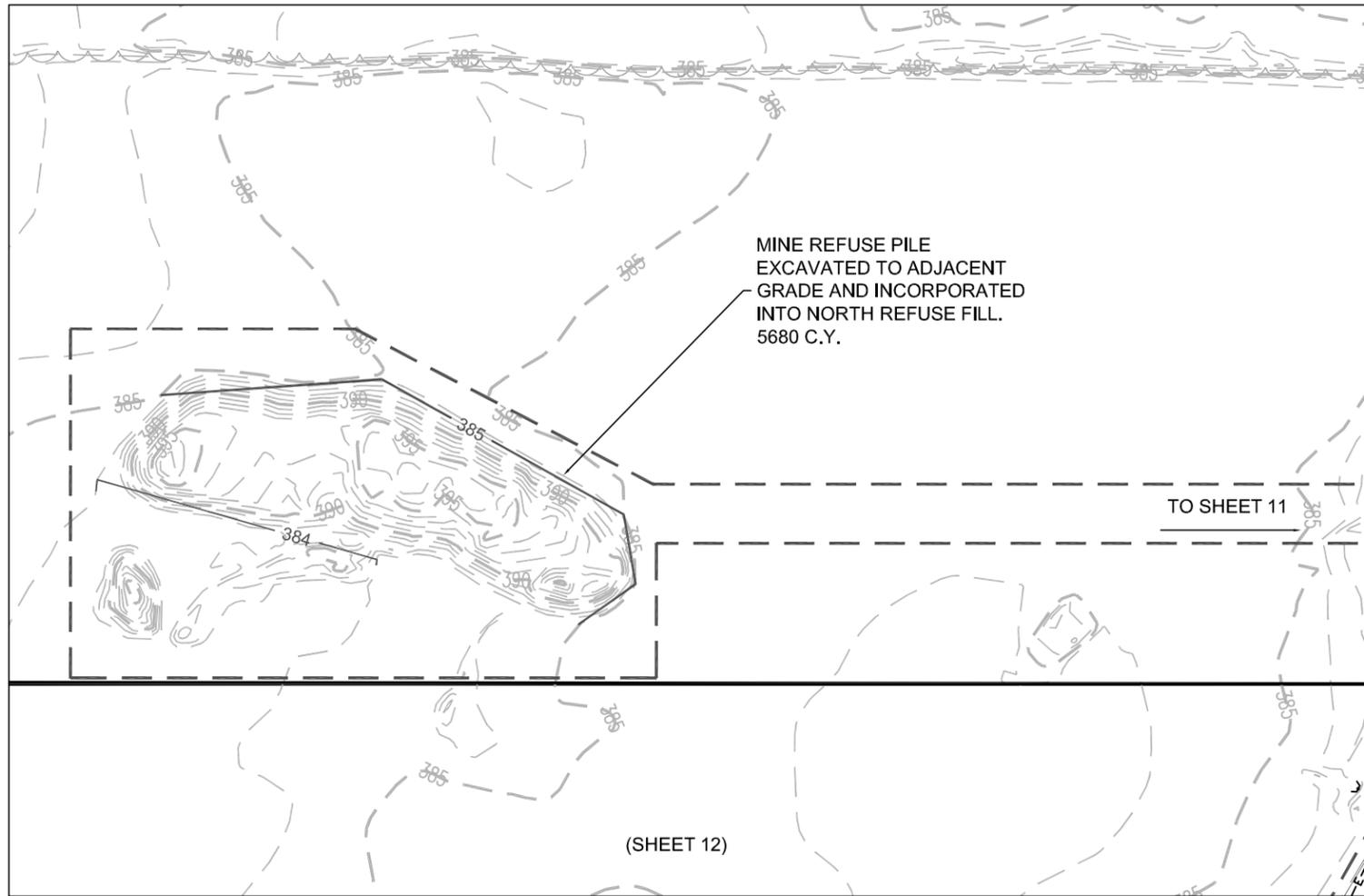
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**Franklin County**

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Checked By: M.T. 8/2012

**Bell & Zoller Mine #2 - UCO**  
**Proposed Conditions**  
**Sheet 14 of 38**



Sheet Layout

| Legend |                        |
|--------|------------------------|
|        | EXISTING CONTOUR       |
|        | PROPOSED CONTOUR       |
|        | CONSTRUCTION LIMITS    |
|        | EDGE OF ROAD           |
|        | TREELINE               |
|        | OVERHEAD ELECTRIC LINE |
|        | UTILITY POLE           |

**Bell & Zoller Mine #2  
UCO**

N

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SCALE IN FEET

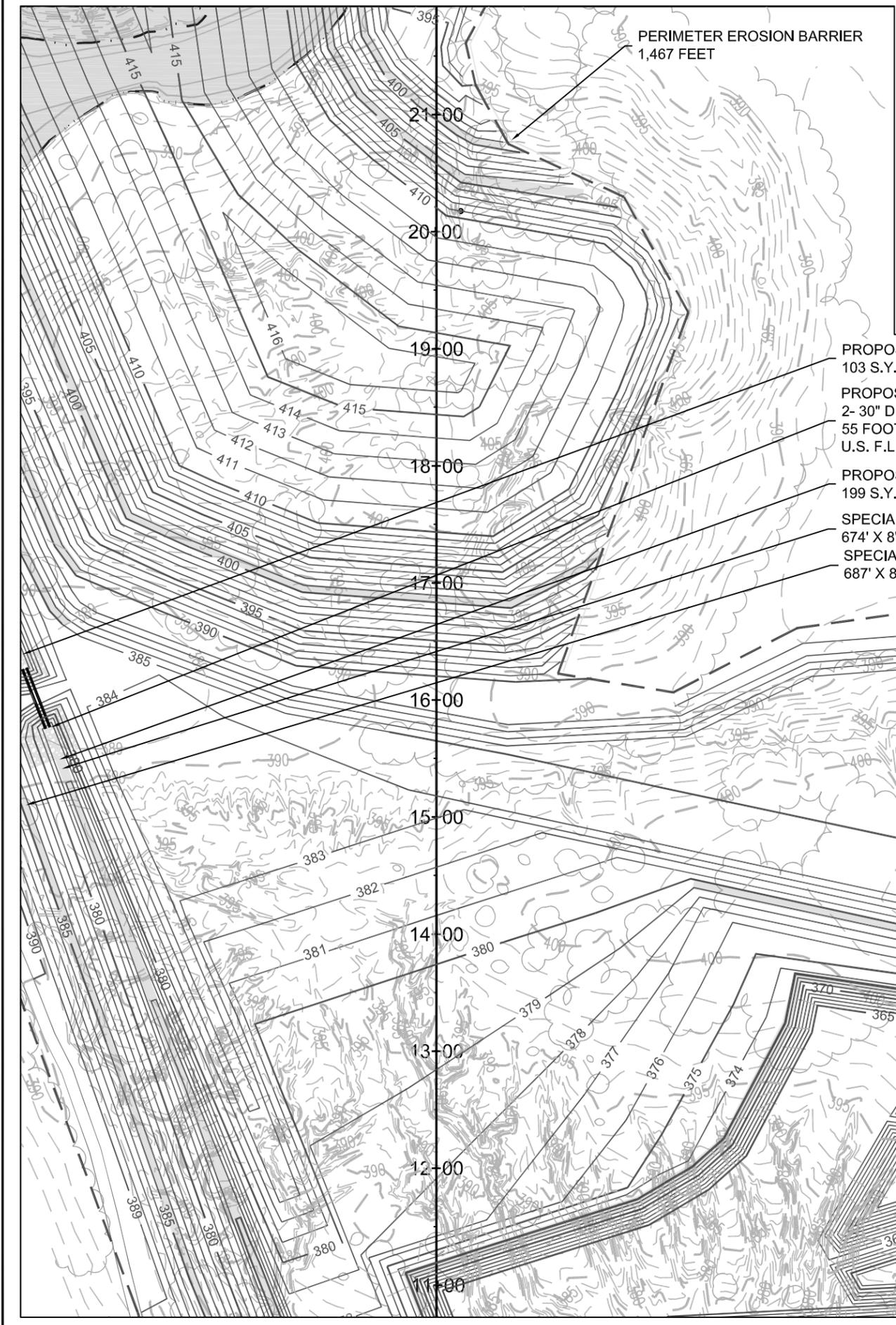
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State of Illinois  
Department of Natural Resources

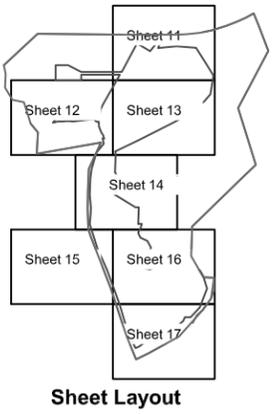
Bell & Zoller Mine #2 - UCO  
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Bell & Zoller Mine #2 - UCO  
Proposed Conditions  
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PERIMETER EROSION BARRIER  
1,467 FEET



Sheet Layout

| Legend |                        |
|--------|------------------------|
|        | EXISTING CONTOUR       |
|        | PROPOSED CONTOUR       |
|        | CONSTRUCTION LIMITS    |
|        | EDGE OF ROAD           |
|        | TREELINE               |
|        | OVERHEAD ELECTRIC LINE |
|        | UTILITY POLE           |

**Bell & Zoller Mine #2  
UCO**

SCALE IN FEET

Mapping Date: 3/12/2008

- PROPOSED STONE RIPRAP, A-4  
103 S.Y.
- PROPOSED PIPE CULVERTS  
2- 30" DIA. P.E. WITH SMOOTH INT.  
55 FOOT LONG EACH  
U.S. F.L. ELEV. 377.95, D.S. F.L. ELEV. 377.92
- PROPOSED STONE RIPRAP, A-4  
199 S.Y.
- SPECIAL EXCELSIOR BLANKET  
674' X 8'; 599 S.Y.
- SPECIAL EXCELSIOR BLANKET  
687' X 8'; 611 S.Y.

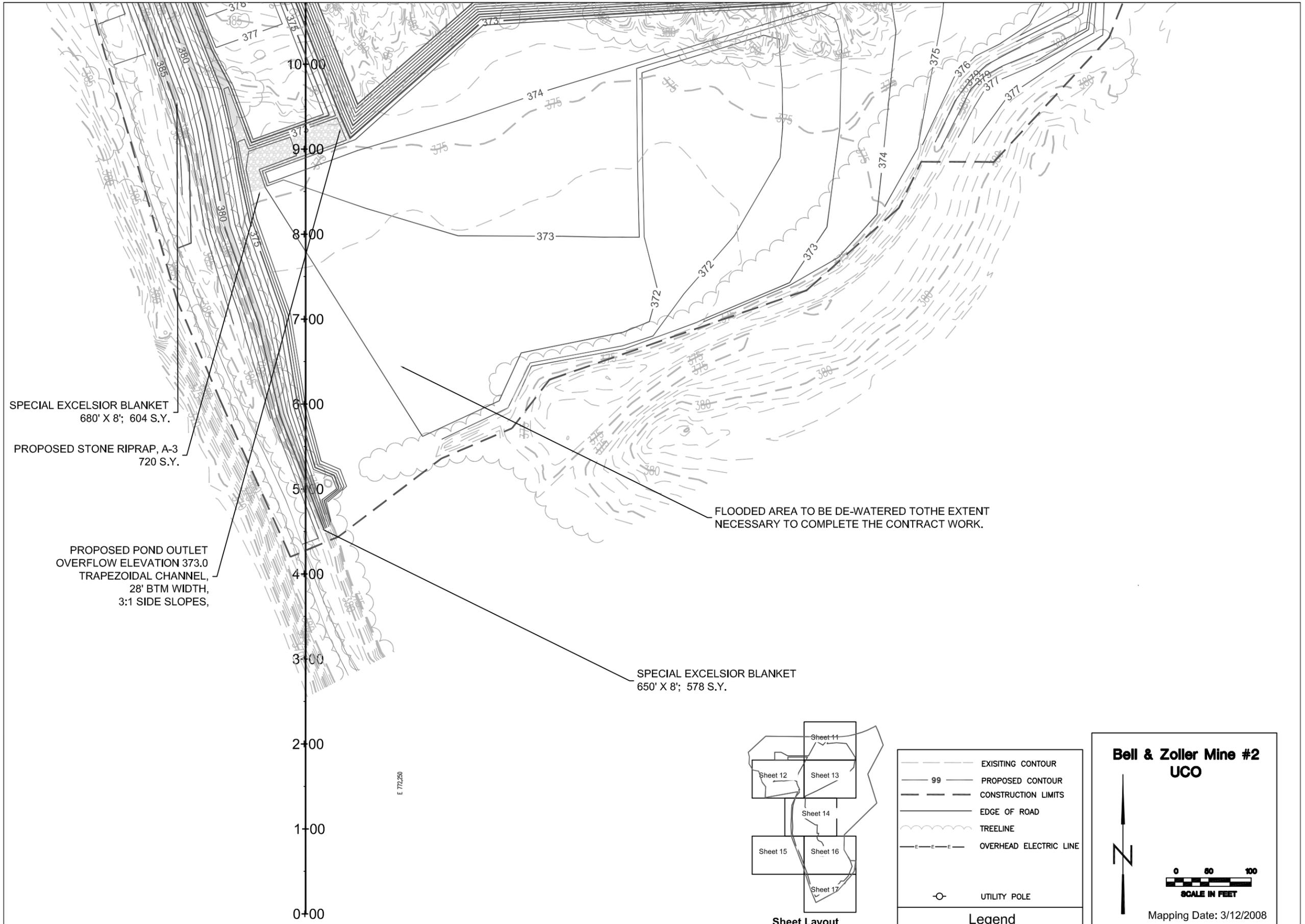
TREE SEEDLING PLANTING AREA  
SEE DETAILS SHEET 38

SPECIAL EXCELSIOR BLANKET  
819' X 8'; 728 S.Y.

SPECIAL EXCELSIOR BLANKET  
880' X 8'; 782 S.Y.

PROPOSED POND  
POOL ELEVATION 373.0  
BTM ELEV 365.0 AND 359.0,  
3:1 SIDE SLOPES

ISLAND  
ELEV. 375.0



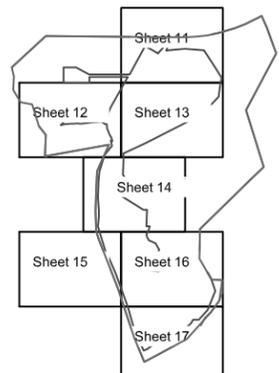
SPECIAL EXCELSIOR BLANKET  
680' X 8'; 604 S.Y.

PROPOSED STONE RIPRAP, A-3  
720 S.Y.

PROPOSED POND OUTLET  
OVERFLOW ELEVATION 373.0  
TRAPEZOIDAL CHANNEL,  
28' BTM WIDTH,  
3:1 SIDE SLOPES,

SPECIAL EXCELSIOR BLANKET  
650' X 8'; 578 S.Y.

FLOODED AREA TO BE DE-WATERED TO THE EXTENT  
NECESSARY TO COMPLETE THE CONTRACT WORK.



Sheet Layout

- EXISTING CONTOUR
- 99 — PROPOSED CONTOUR
- - - CONSTRUCTION LIMITS
- EDGE OF ROAD
- ~~~~ TREELINE
- - - OVERHEAD ELECTRIC LINE
- UTILITY POLE

Legend

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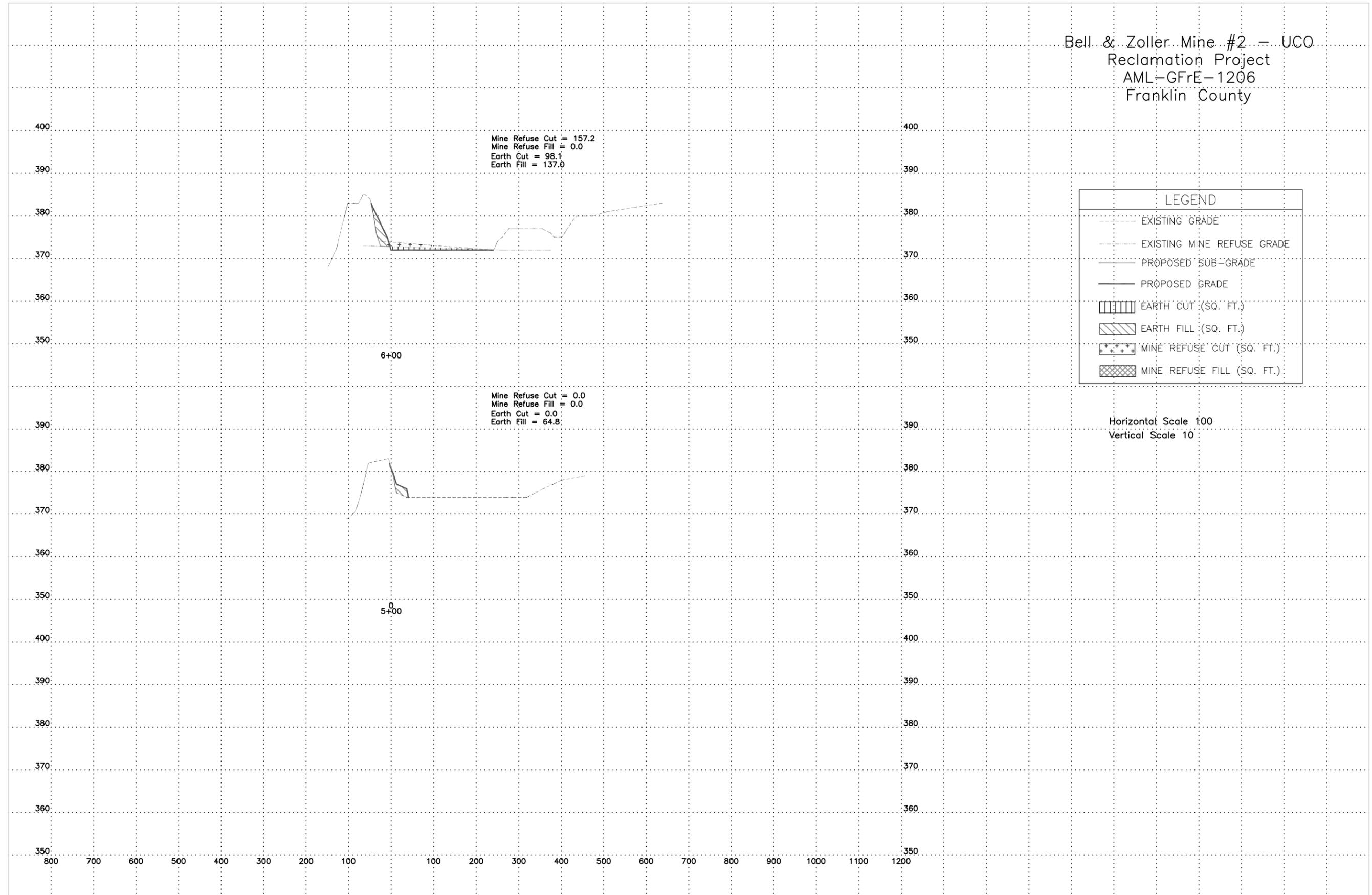
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0 50 100  
SCALE IN FEET

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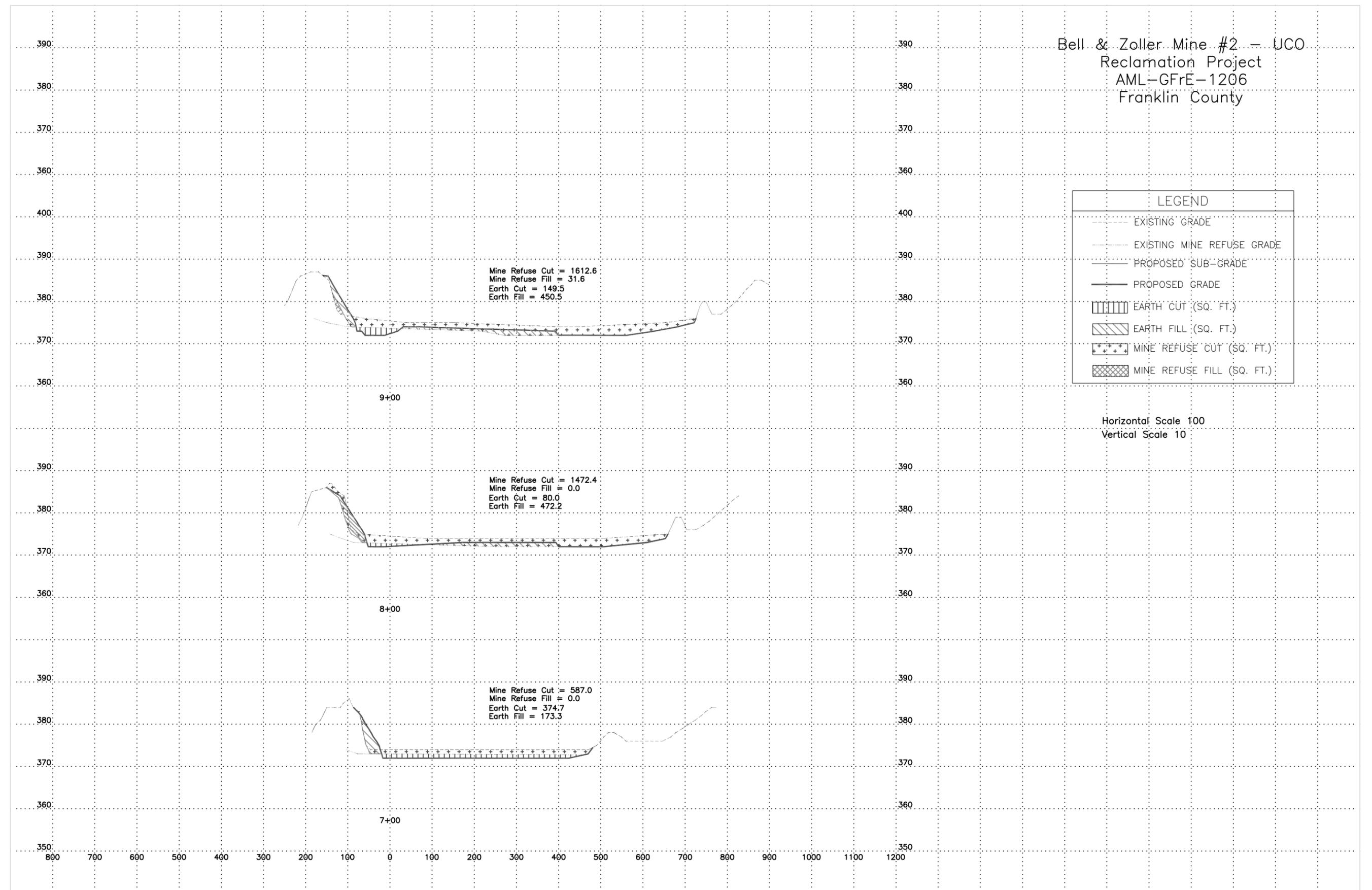
| LEGEND |                            |
|--------|----------------------------|
|        | EXISTING GRADE             |
|        | EXISTING MINE REFUSE GRADE |
|        | PROPOSED SUB-GRADE         |
|        | PROPOSED GRADE             |
|        | EARTH CUT (SQ. FT.)        |
|        | EARTH FILL (SQ. FT.)       |
|        | MINE REFUSE CUT (SQ. FT.)  |
|        | MINE REFUSE FILL (SQ. FT.) |

Horizontal Scale 100  
 Vertical Scale 10

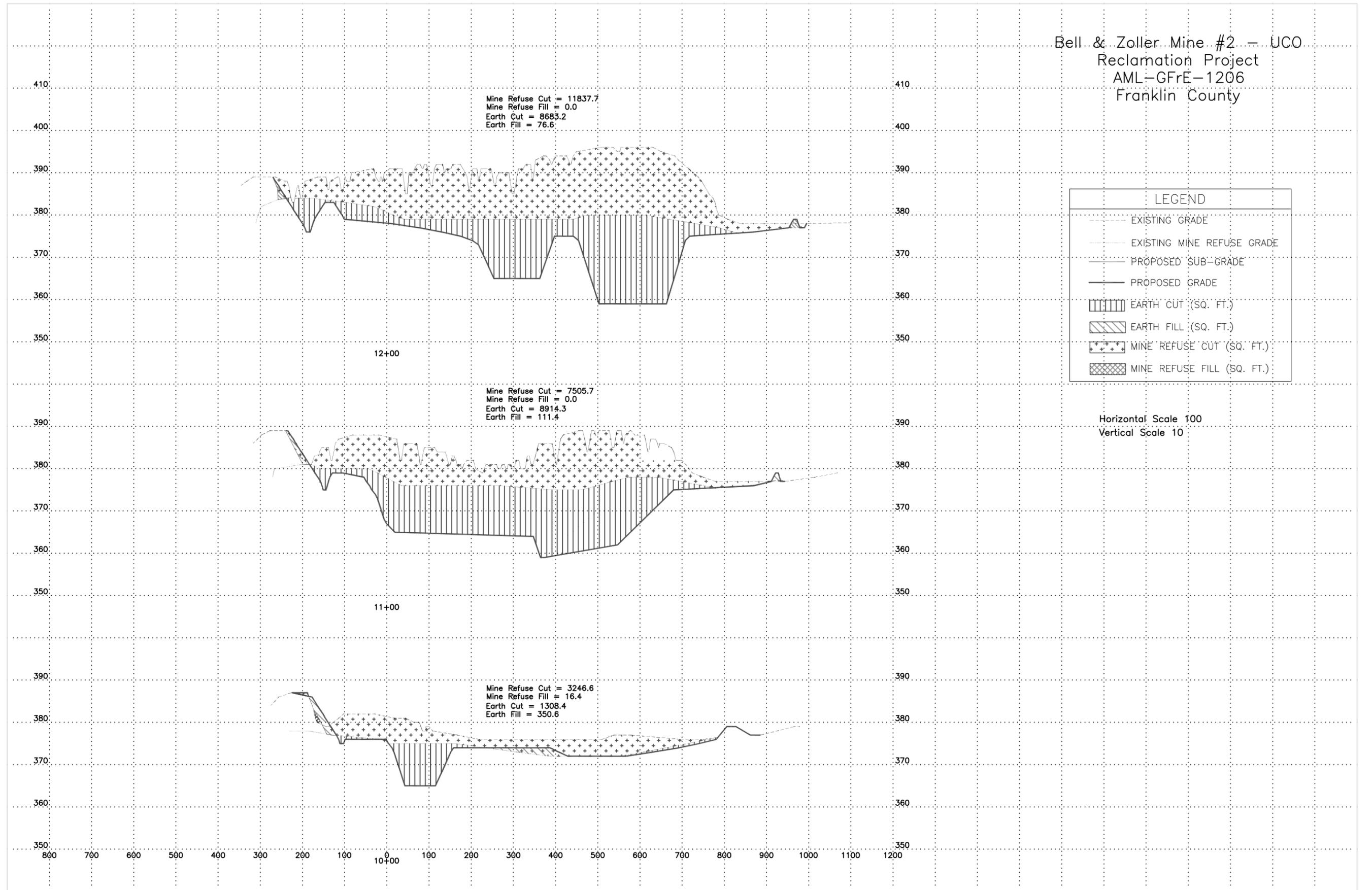
Bell & Zoller Mine #2 - UCO  
 Reclamation Project  
 AML-GFrE-1206  
 Franklin County

| LEGEND |                            |
|--------|----------------------------|
|        | EXISTING GRADE             |
|        | EXISTING MINE REFUSE GRADE |
|        | PROPOSED SUB-GRADE         |
|        | PROPOSED GRADE             |
|        | EARTH CUT (SQ. FT.)        |
|        | EARTH FILL (SQ. FT.)       |
|        | MINE REFUSE CUT (SQ. FT.)  |
|        | MINE REFUSE FILL (SQ. FT.) |

Horizontal Scale 100  
 Vertical Scale 10



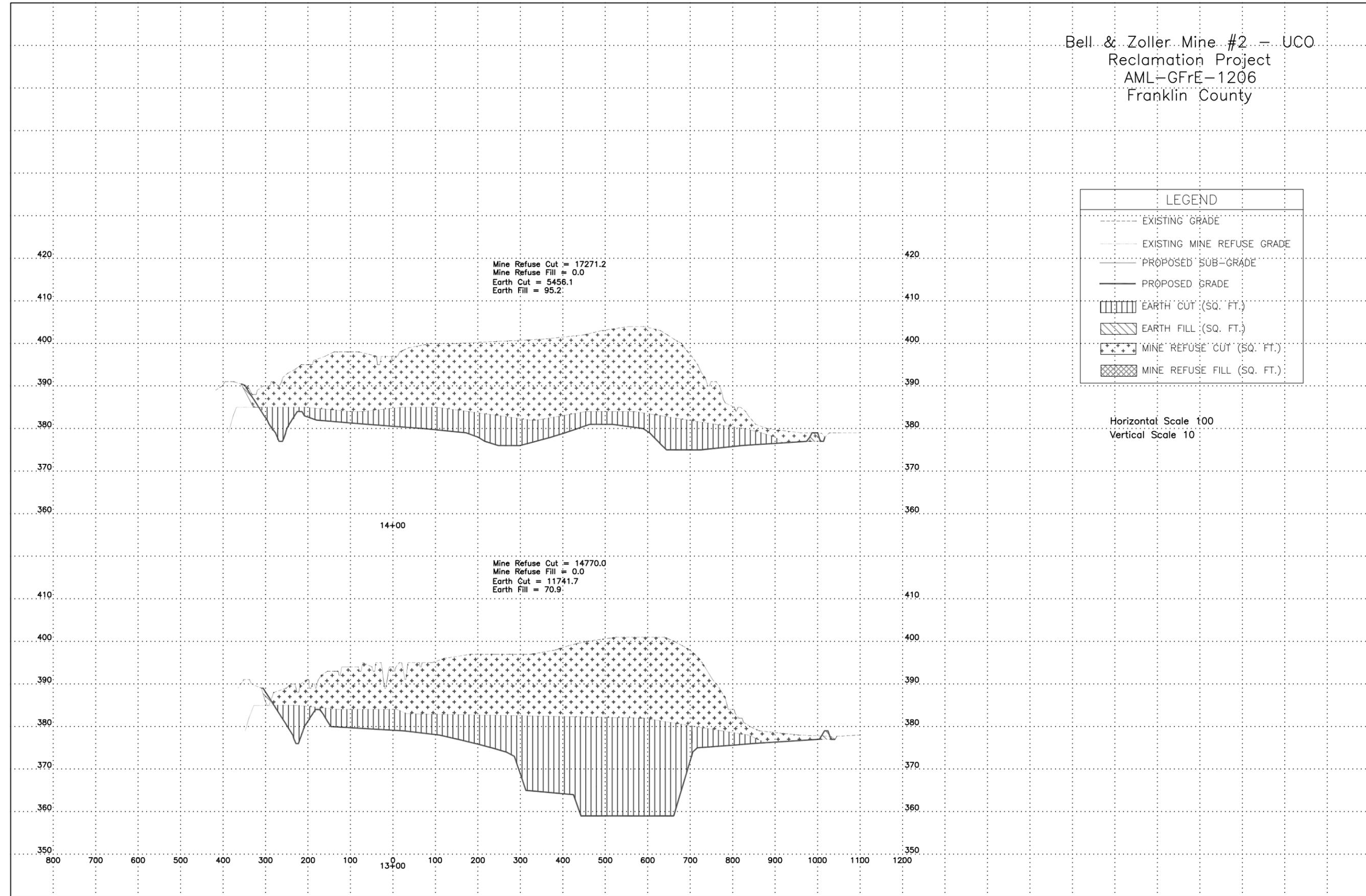
Bell & Zoller Mine #2 – UCO  
 Reclamation Project  
 AML-GFrE-1206  
 Franklin County



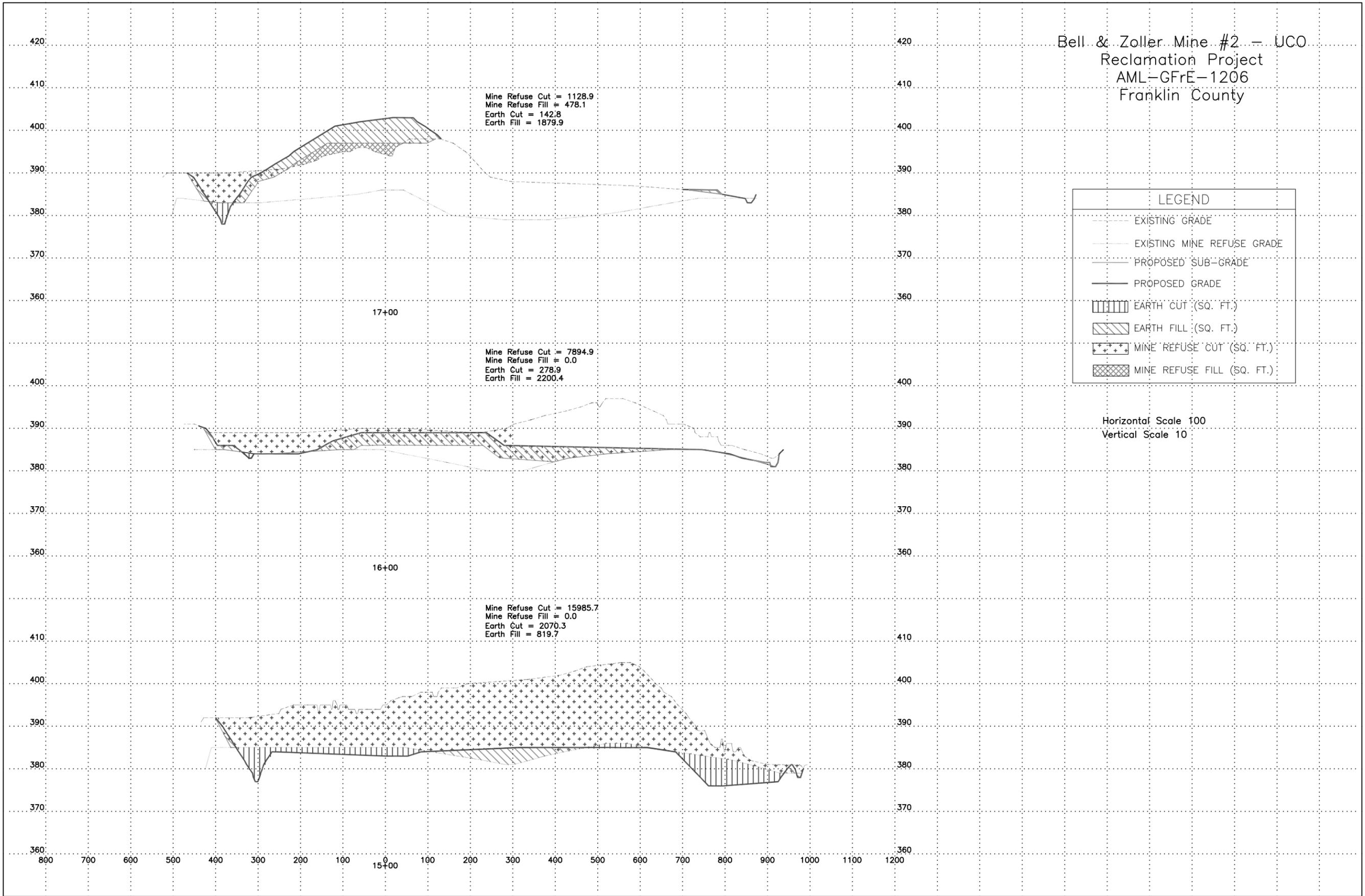
Bell & Zoller Mine #2 - UCO  
 Reclamation Project  
 AML-GFrE-1206  
 Franklin County

| LEGEND           |                            |
|------------------|----------------------------|
| ---              | EXISTING GRADE             |
| ---              | EXISTING MINE REFUSE GRADE |
| ---              | PROPOSED SUB-GRADE         |
| ---              | PROPOSED GRADE             |
| [Vertical Lines] | EARTH CUT (SQ. FT.)        |
| [Diagonal Lines] | EARTH FILL (SQ. FT.)       |
| [Cross-hatch]    | MINE REFUSE CUT (SQ. FT.)  |
| [Grid]           | MINE REFUSE FILL (SQ. FT.) |

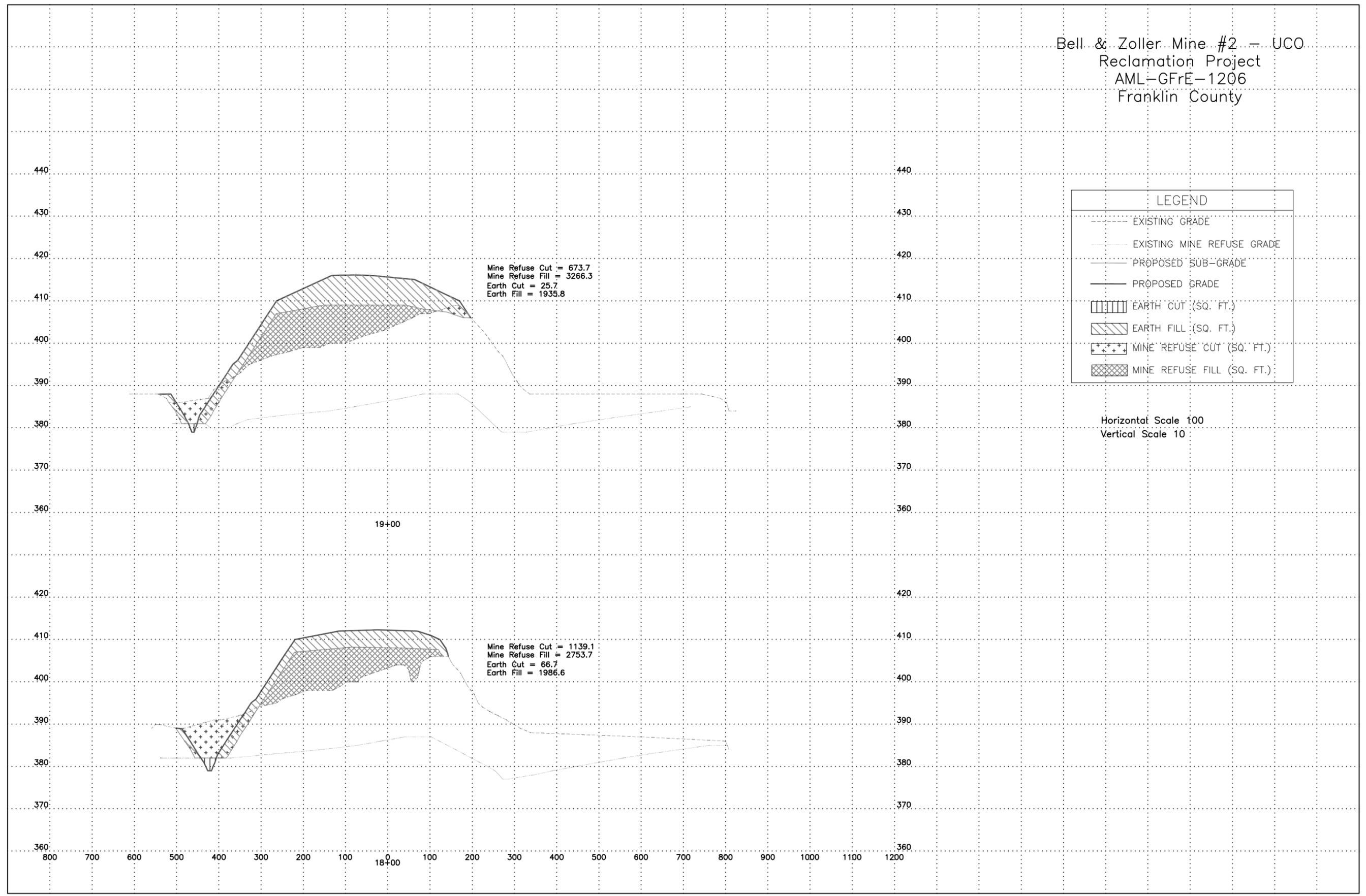
Horizontal Scale 100  
 Vertical Scale 10



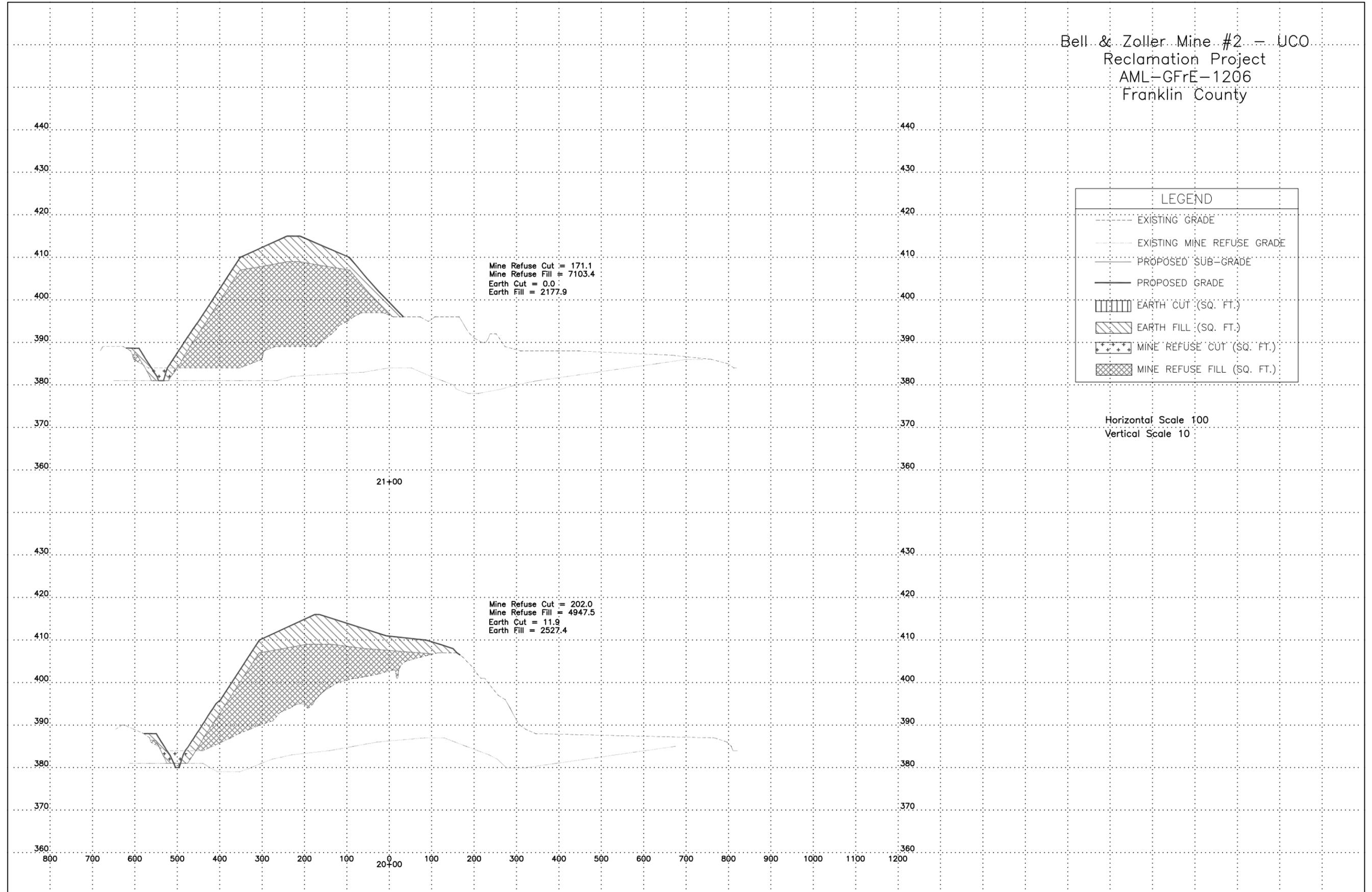
Bell & Zoller Mine #2 - UCO  
 Reclamation Project  
 AML-GFrE-1206  
 Franklin County



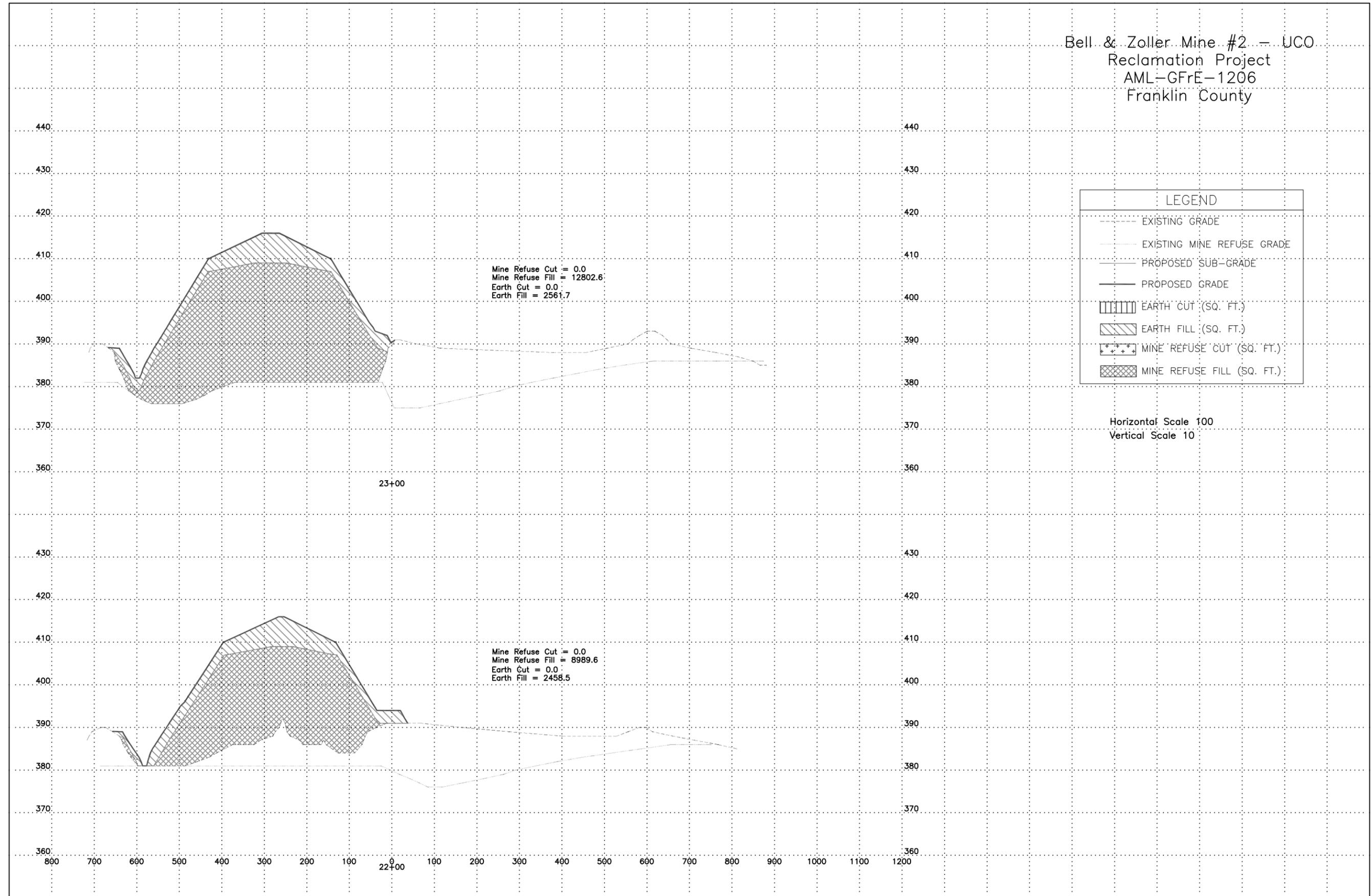
Bell & Zoller Mine #2 - UCO  
 Reclamation Project  
 AML-GFrE-1206  
 Franklin County



Bell & Zoller Mine #2 - UCO  
 Reclamation Project  
 AML-GFrE-1206  
 Franklin County



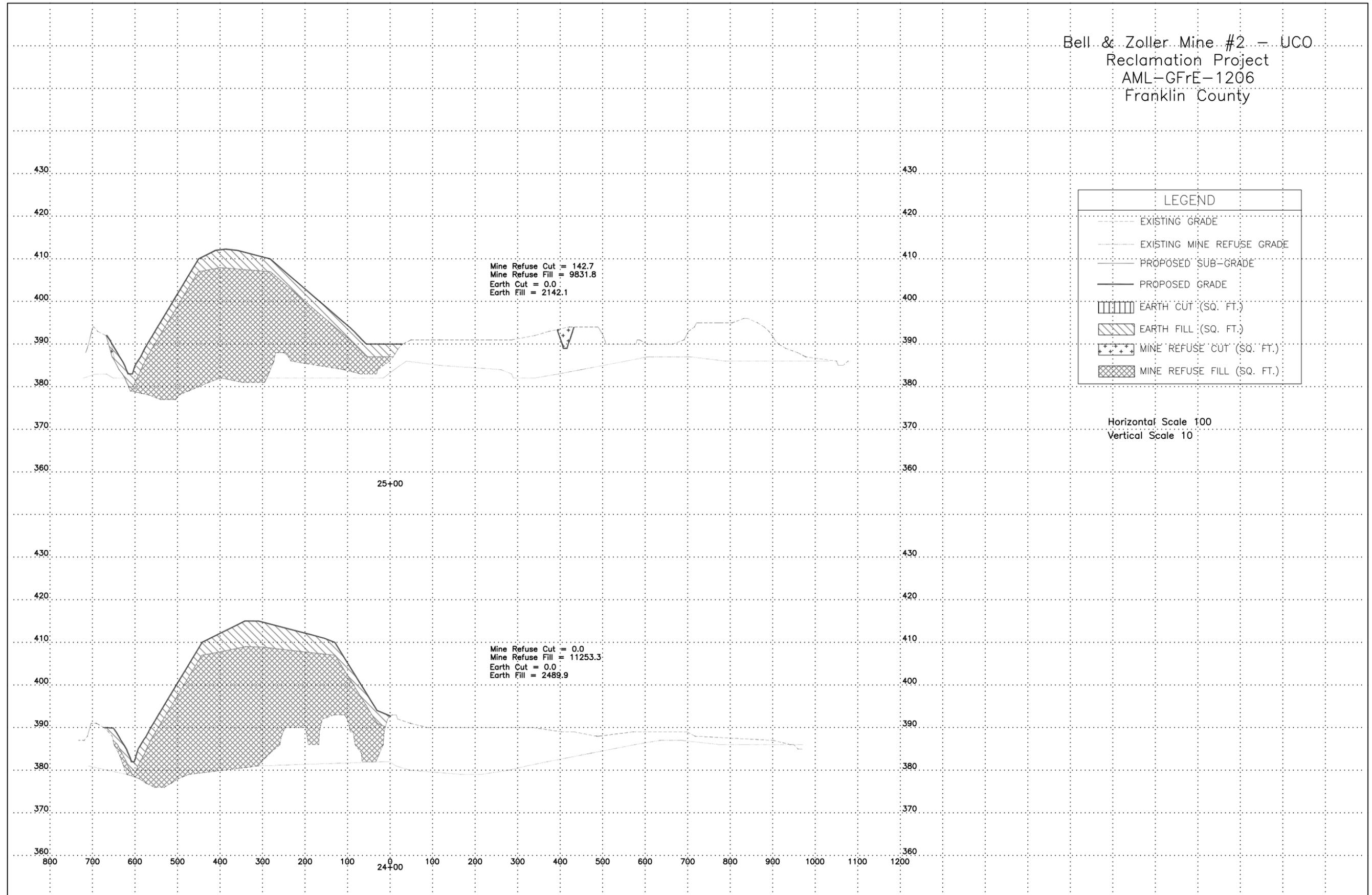
Bell & Zoller Mine #2 - UCO  
 Reclamation Project  
 AML-GFrE-1206  
 Franklin County



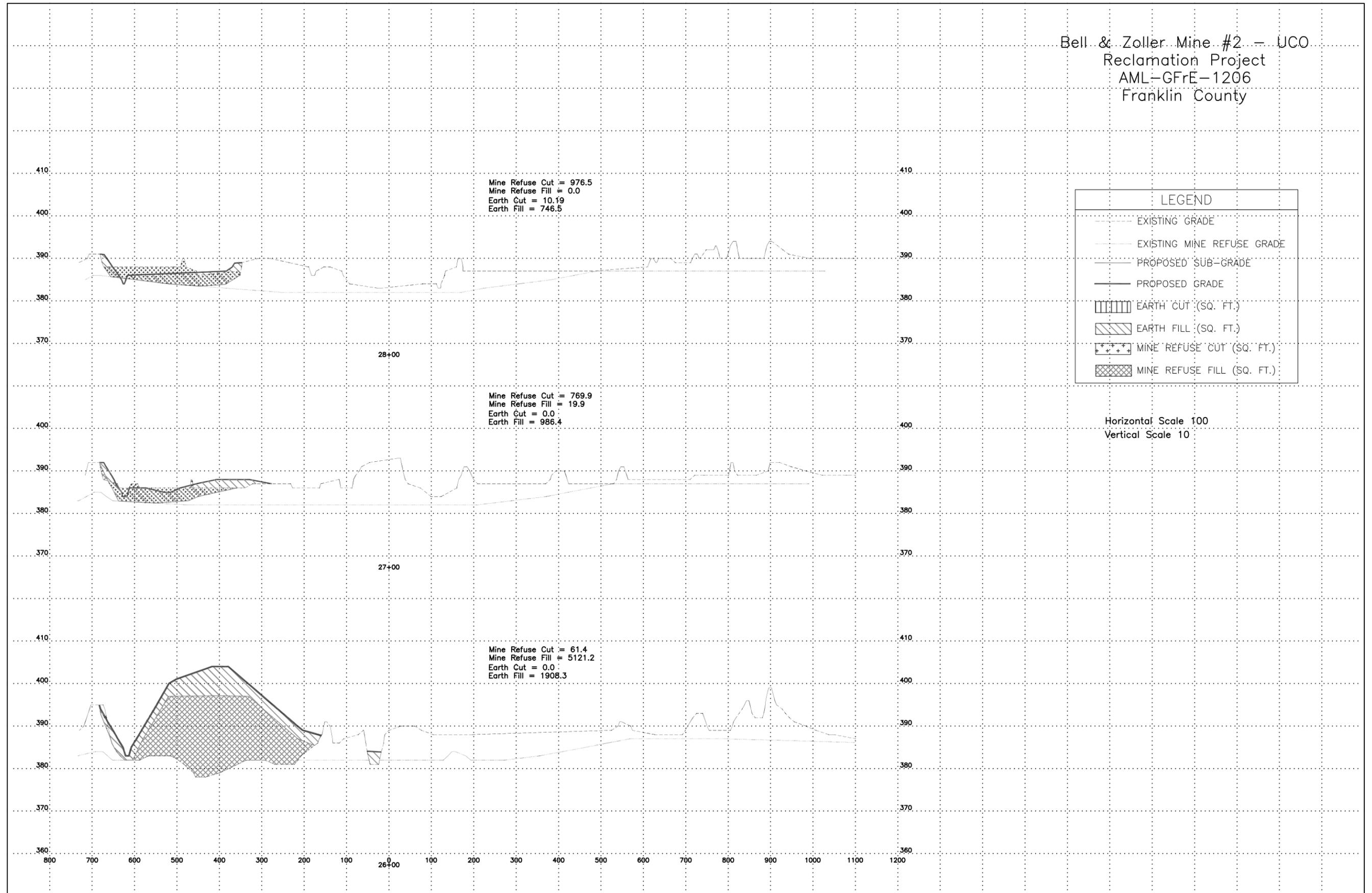
| LEGEND                   |                            |
|--------------------------|----------------------------|
| ---                      | EXISTING GRADE             |
| ---                      | EXISTING MINE REFUSE GRADE |
| ---                      | PROPOSED SUB-GRADE         |
| ---                      | PROPOSED GRADE             |
| [Cross-hatch pattern]    | EARTH CUT (SQ. FT.)        |
| [Diagonal hatch pattern] | EARTH FILL (SQ. FT.)       |
| [Stippled pattern]       | MINE REFUSE CUT (SQ. FT.)  |
| [Cross-hatch pattern]    | MINE REFUSE FILL (SQ. FT.) |

Horizontal Scale 100  
 Vertical Scale 10

Bell & Zoller Mine #2 - UCO  
 Reclamation Project  
 AML-GFrE-1206  
 Franklin County



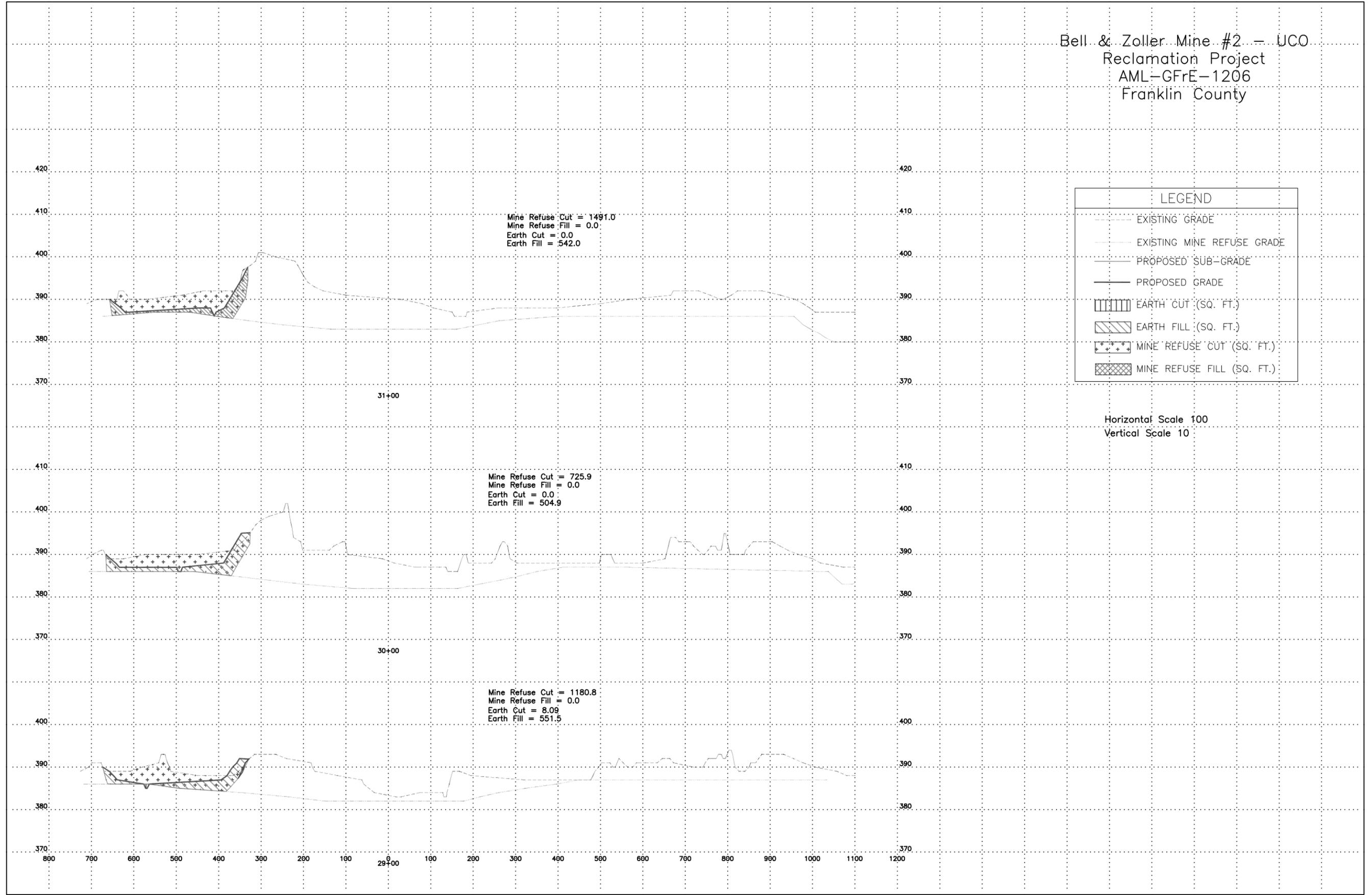
Bell & Zoller Mine #2 - UCO  
 Reclamation Project  
 AML-GFrE-1206  
 Franklin County



| LEGEND |                            |
|--------|----------------------------|
| ---    | EXISTING GRADE             |
| ---    | EXISTING MINE REFUSE GRADE |
| ---    | PROPOSED SUB-GRADE         |
| ---    | PROPOSED GRADE             |
|        | EARTH CUT (SQ. FT.)        |
| ////   | EARTH FILL (SQ. FT.)       |
| *+*+*  | MINE REFUSE CUT (SQ. FT.)  |
| XXXX   | MINE REFUSE FILL (SQ. FT.) |

Horizontal Scale 100  
 Vertical Scale 10

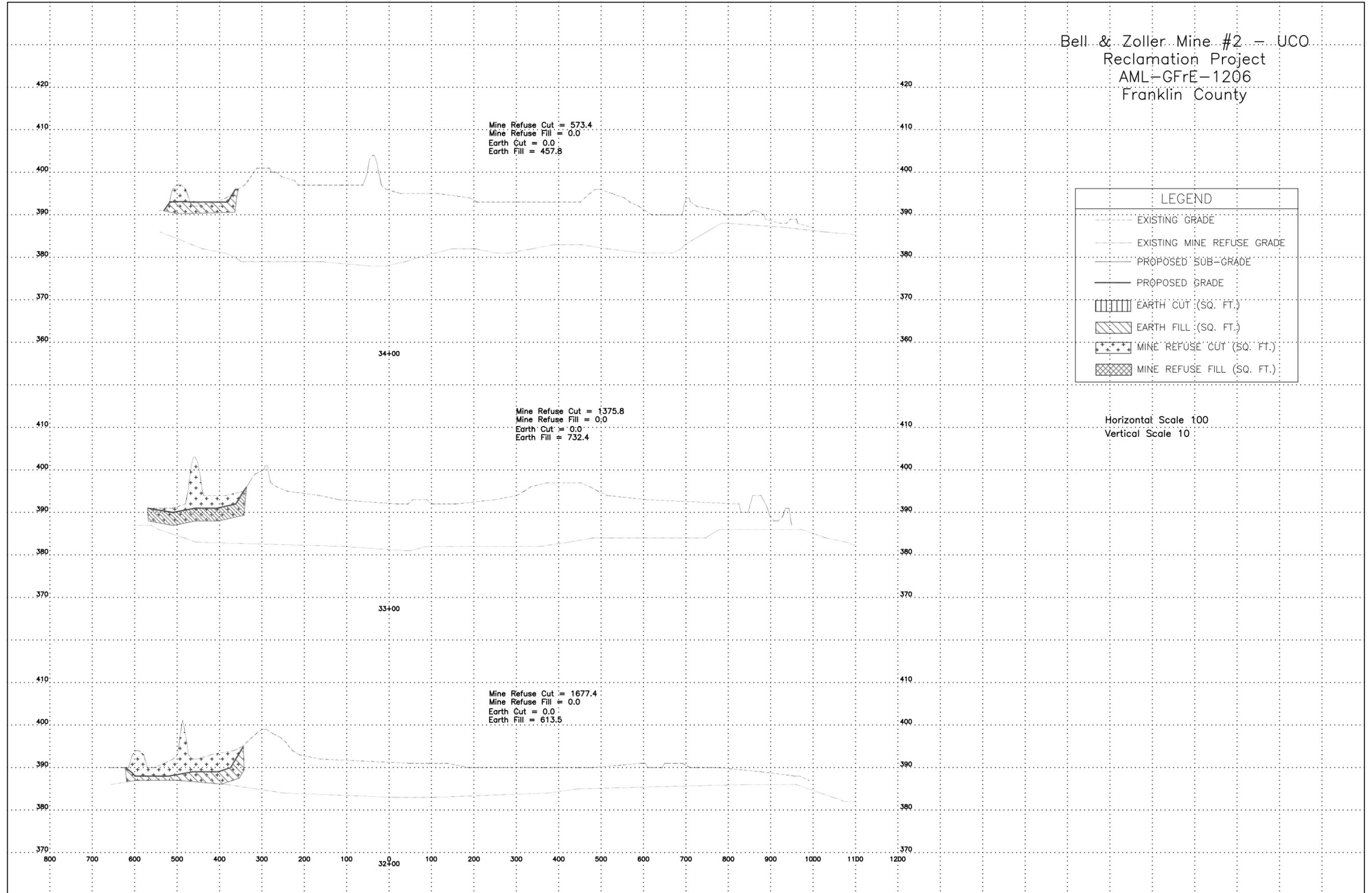
Bell & Zoller Mine #2 - UCO  
 Reclamation Project  
 AML-GFrE-1206  
 Franklin County



| LEGEND |                            |
|--------|----------------------------|
|        | EXISTING GRADE             |
|        | EXISTING MINE REFUSE GRADE |
|        | PROPOSED SUB-GRADE         |
|        | PROPOSED GRADE             |
|        | EARTH CUT (SQ. FT.)        |
|        | EARTH FILL (SQ. FT.)       |
|        | MINE REFUSE CUT (SQ. FT.)  |
|        | MINE REFUSE FILL (SQ. FT.) |

Horizontal Scale 100  
 Vertical Scale 10

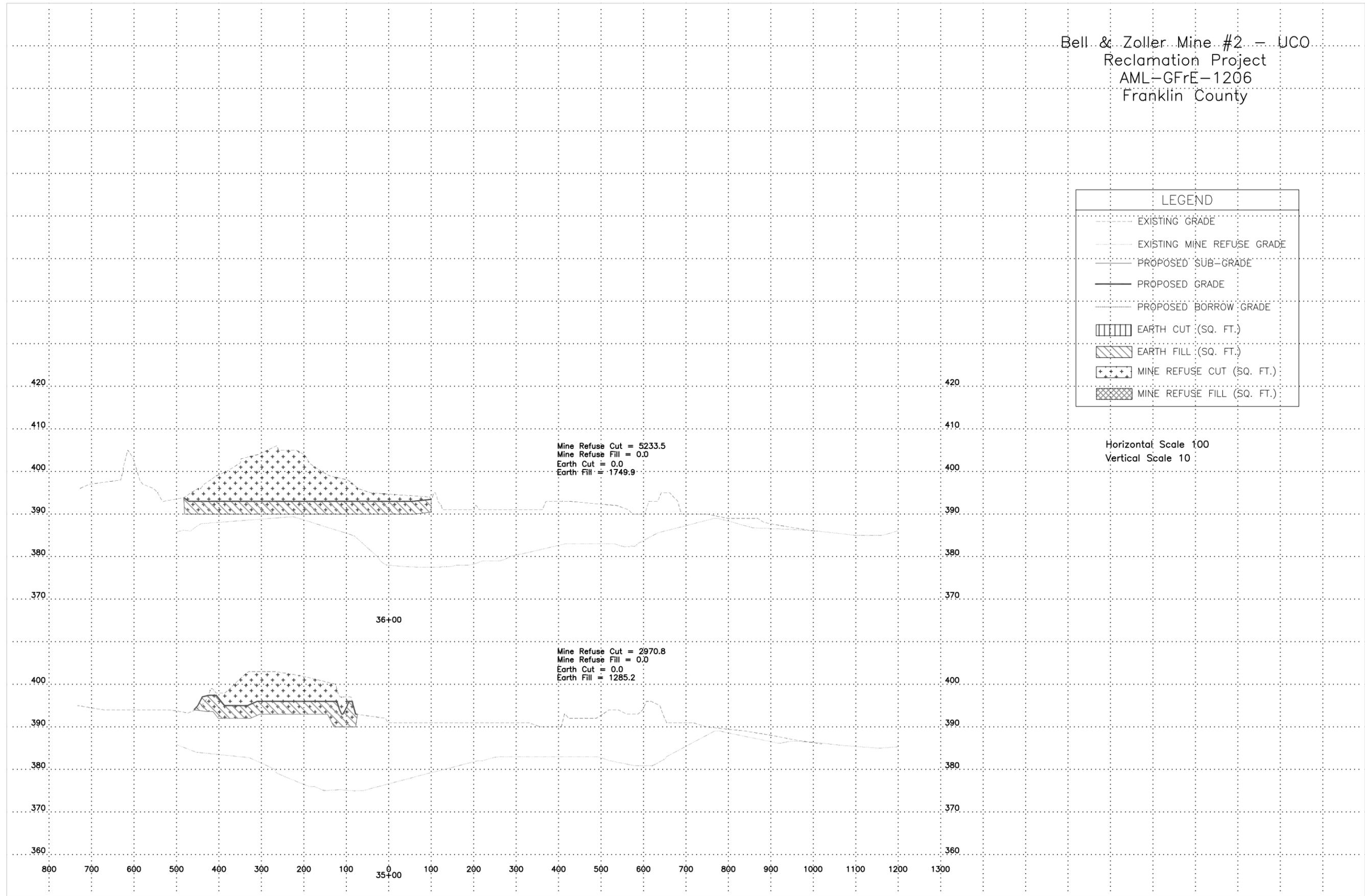
Bell & Zoller Mine #2 - UCO  
 Reclamation Project  
 AML-GFrE-1206  
 Franklin County



Bell & Zoller Mine #2 – UCO  
 Reclamation Project  
 AML-GFrE-1206  
 Franklin County

| LEGEND                                                                              |                            |
|-------------------------------------------------------------------------------------|----------------------------|
|  | EXISTING GRADE             |
|  | EXISTING MINE REFUSE GRADE |
|  | PROPOSED SUB-GRADE         |
|  | PROPOSED GRADE             |
|  | PROPOSED BORROW GRADE      |
|  | EARTH CUT (SQ. FT.)        |
|  | EARTH FILL (SQ. FT.)       |
|  | MINE REFUSE CUT (SQ. FT.)  |
|  | MINE REFUSE FILL (SQ. FT.) |

Horizontal Scale 100  
 Vertical Scale 10



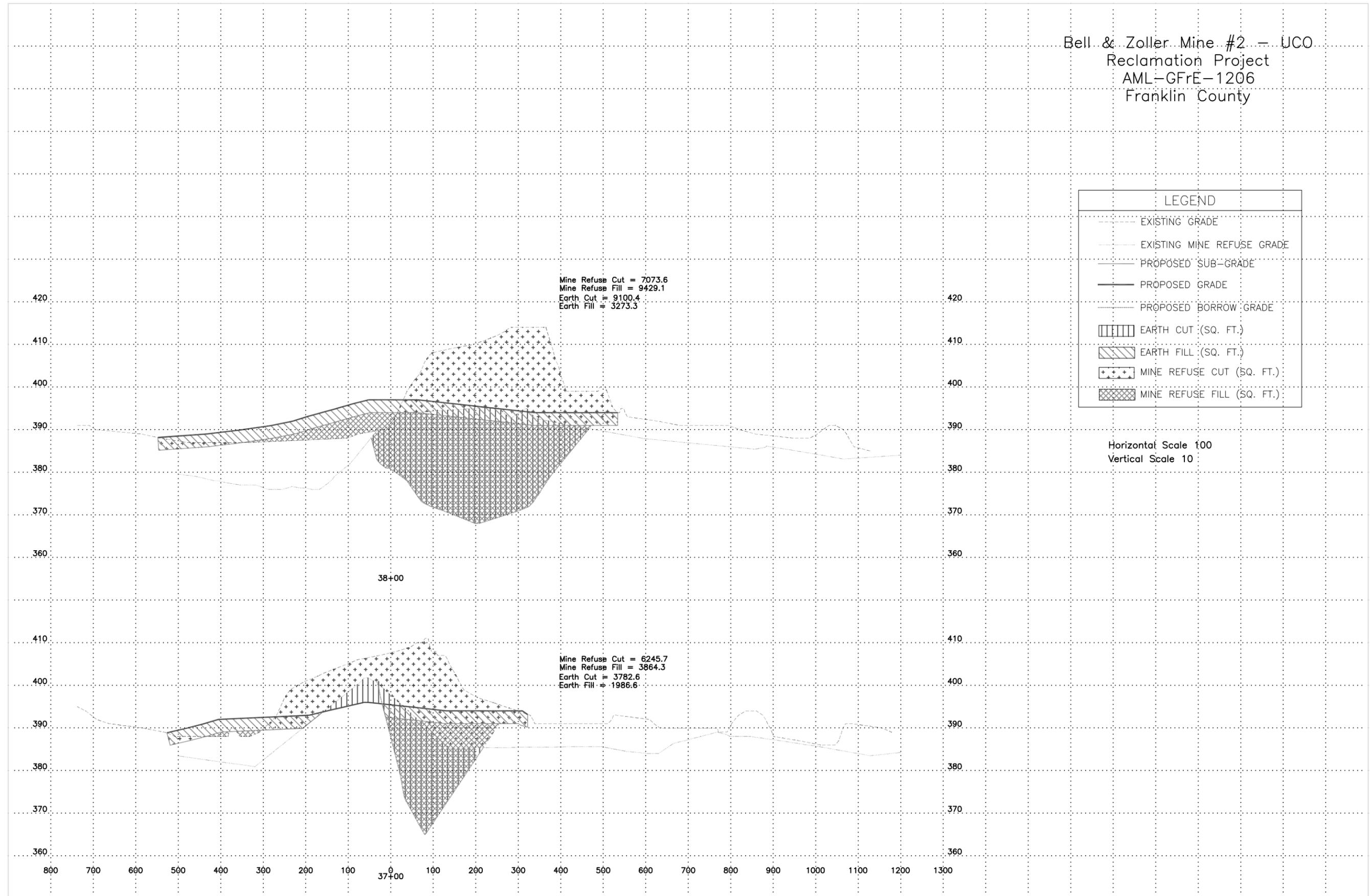
Bell & Zoller Mine #2 - UCO  
 Reclamation Project  
 AML-GFrE-1206  
 Franklin County

| LEGEND |                            |
|--------|----------------------------|
|        | EXISTING GRADE             |
|        | EXISTING MINE REFUSE GRADE |
|        | PROPOSED SUB-GRADE         |
|        | PROPOSED GRADE             |
|        | PROPOSED BORROW GRADE      |
|        | EARTH CUT (SQ. FT.)        |
|        | EARTH FILL (SQ. FT.)       |
|        | MINE REFUSE CUT (SQ. FT.)  |
|        | MINE REFUSE FILL (SQ. FT.) |

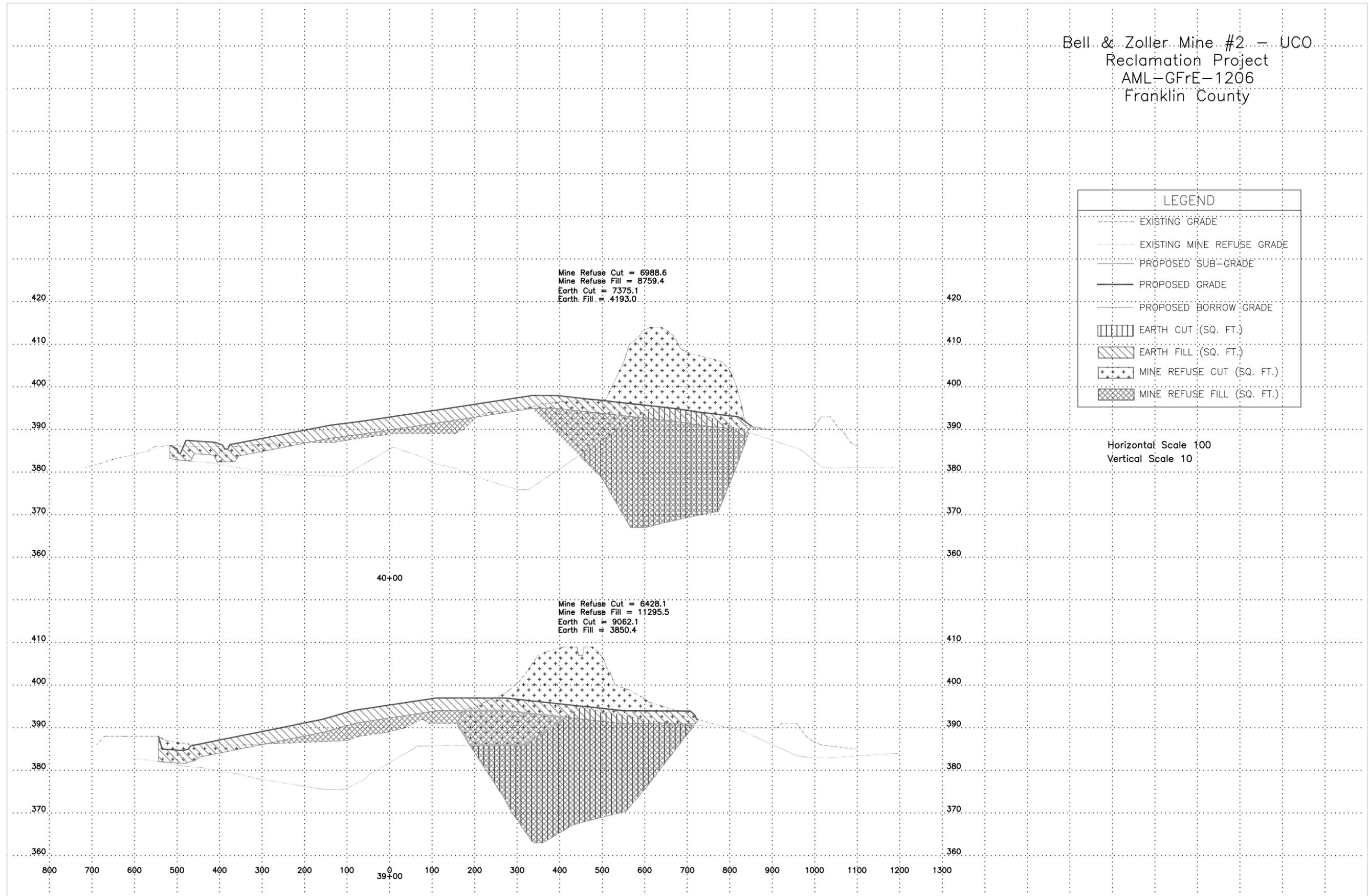
Horizontal Scale 100  
 Vertical Scale 10

Mine Refuse Cut = 7073.6  
 Mine Refuse Fill = 9429.1  
 Earth Cut = 9100.4  
 Earth Fill = 3273.3

Mine Refuse Cut = 6245.7  
 Mine Refuse Fill = 3864.3  
 Earth Cut = 3782.6  
 Earth Fill = 1986.6



Bell & Zoller Mine #2 - UCO  
 Reclamation Project  
 AML-GFrE-1206  
 Franklin County

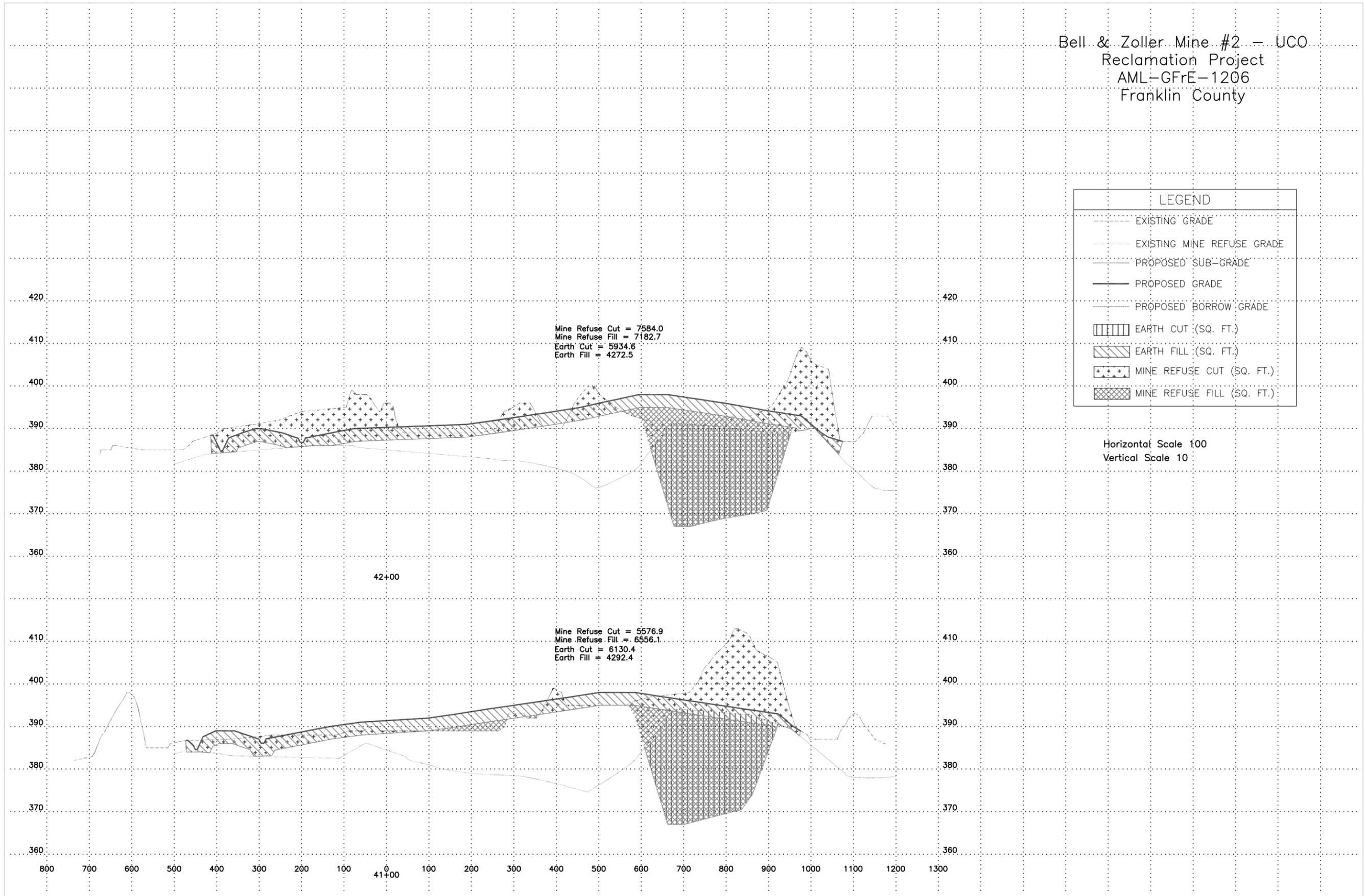


Bell & Zoller Mine #2 - UCO  
 Reclamation Project  
 AML-GFrE-1206  
 Franklin County

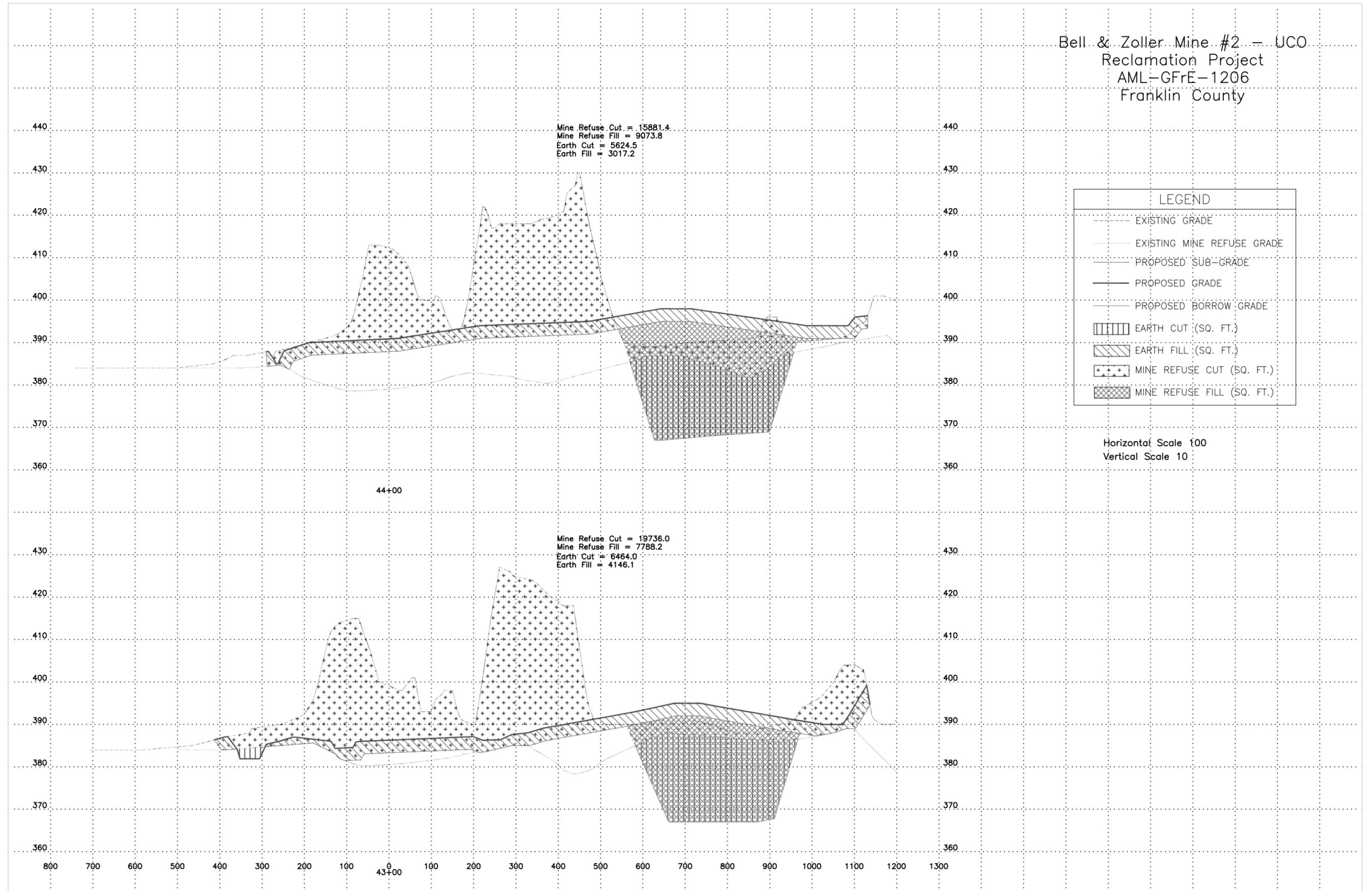
**LEGEND**

- EXISTING GRADE
- EXISTING MINE REFUSE GRADE
- PROPOSED SUB-GRADE
- PROPOSED GRADE
- PROPOSED BORROW GRADE
- ||||| EARTH CUT (SQ. FT.)
- /// EARTH FILL (SQ. FT.)
- + + + MINE REFUSE CUT (SQ. FT.)
- xxx MINE REFUSE FILL (SQ. FT.)

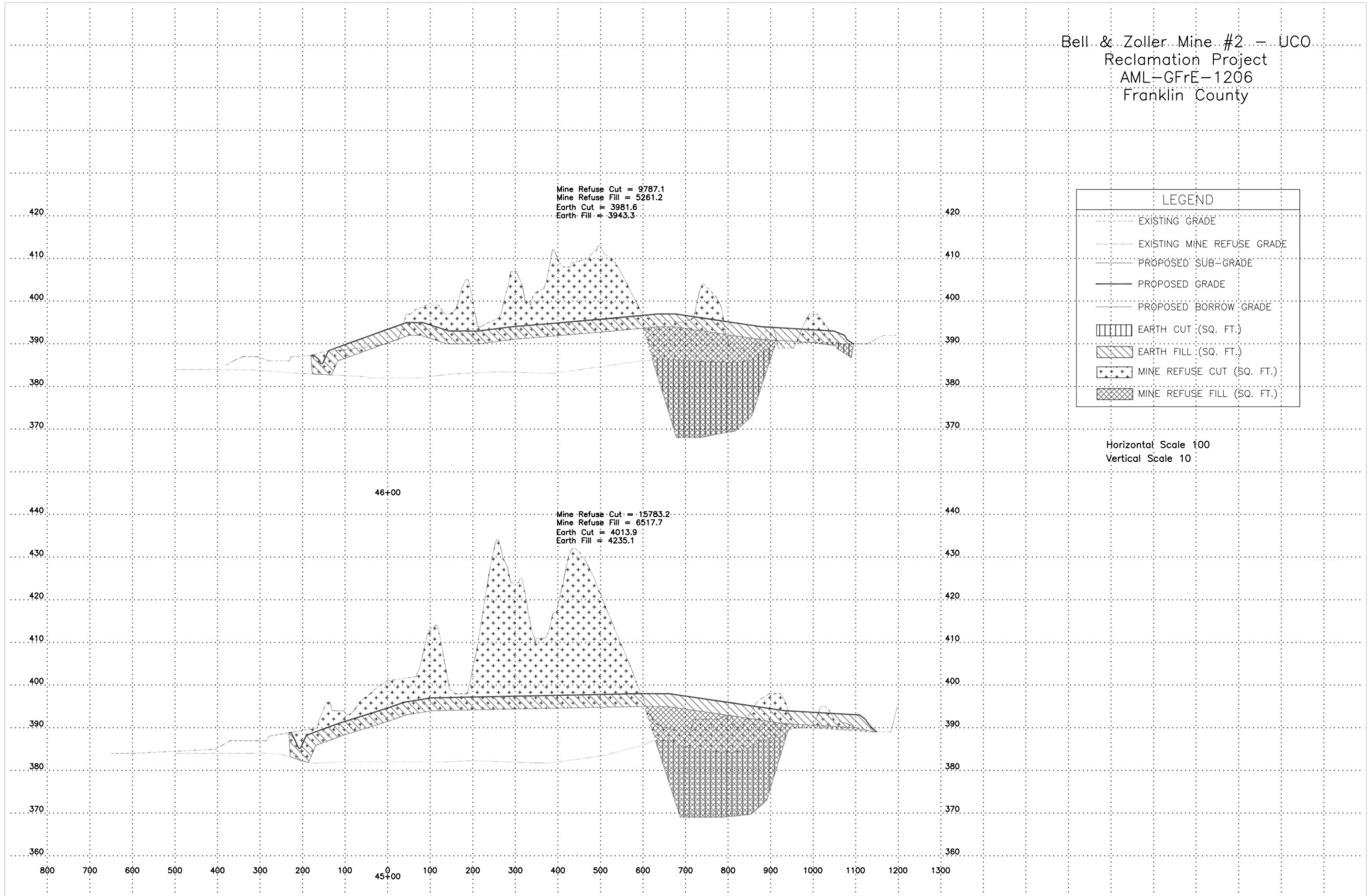
Horizontal Scale 100  
 Vertical Scale 10



Bell & Zoller Mine #2 - UCO  
 Reclamation Project  
 AML-GFrE-1206  
 Franklin County



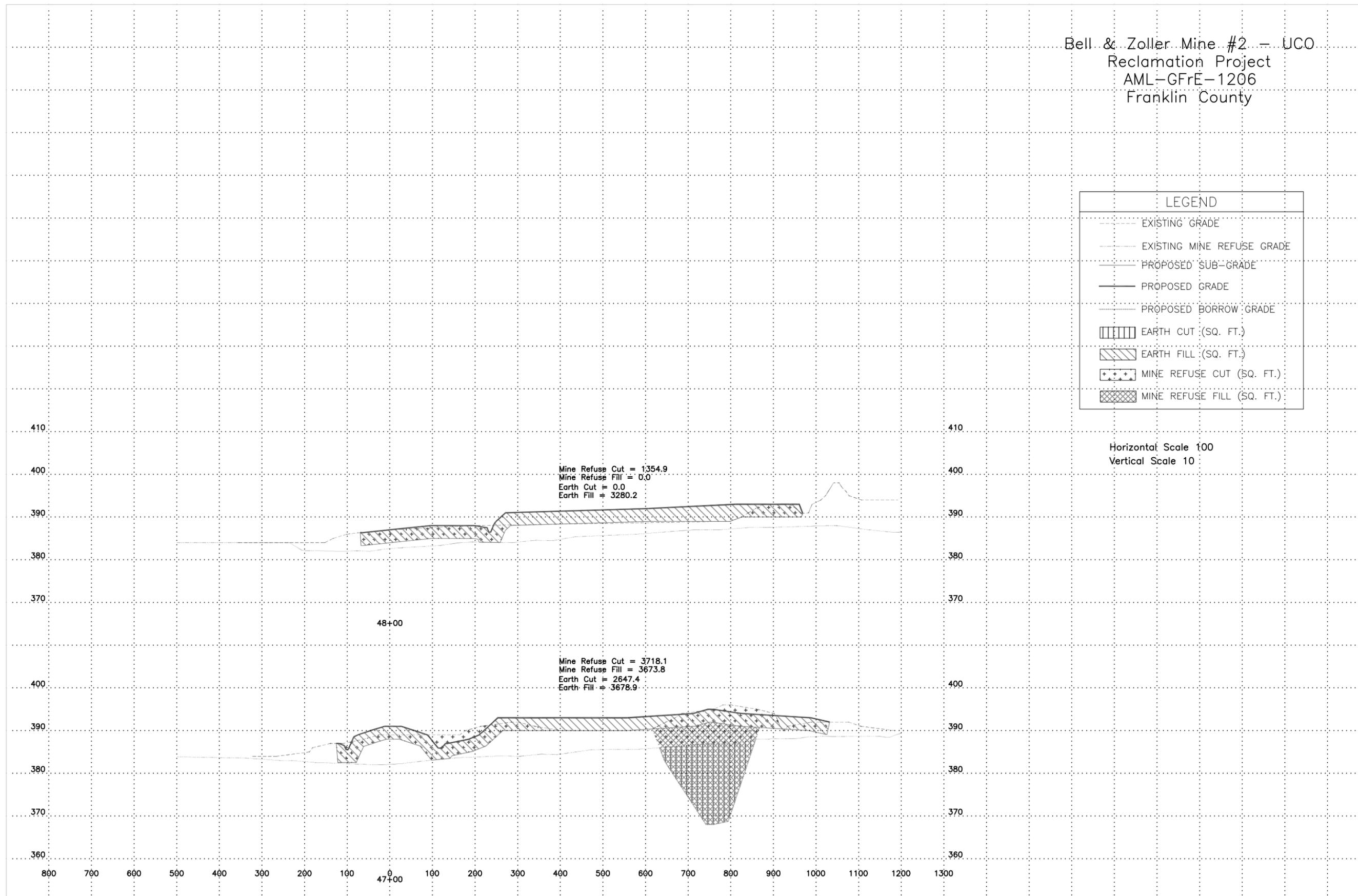
Bell & Zoller Mine #2 - UCO  
 Reclamation Project  
 AML-GFrE-1206  
 Franklin County



Bell & Zoller Mine #2 - UCO  
 Reclamation Project  
 AML-GFrE-1206  
 Franklin County

| LEGEND |                            |
|--------|----------------------------|
|        | EXISTING GRADE             |
|        | EXISTING MINE REFUSE GRADE |
|        | PROPOSED SUB-GRADE         |
|        | PROPOSED GRADE             |
|        | PROPOSED BORROW GRADE      |
|        | EARTH CUT (SQ. FT.)        |
|        | EARTH FILL (SQ. FT.)       |
|        | MINE REFUSE CUT (SQ. FT.)  |
|        | MINE REFUSE FILL (SQ. FT.) |

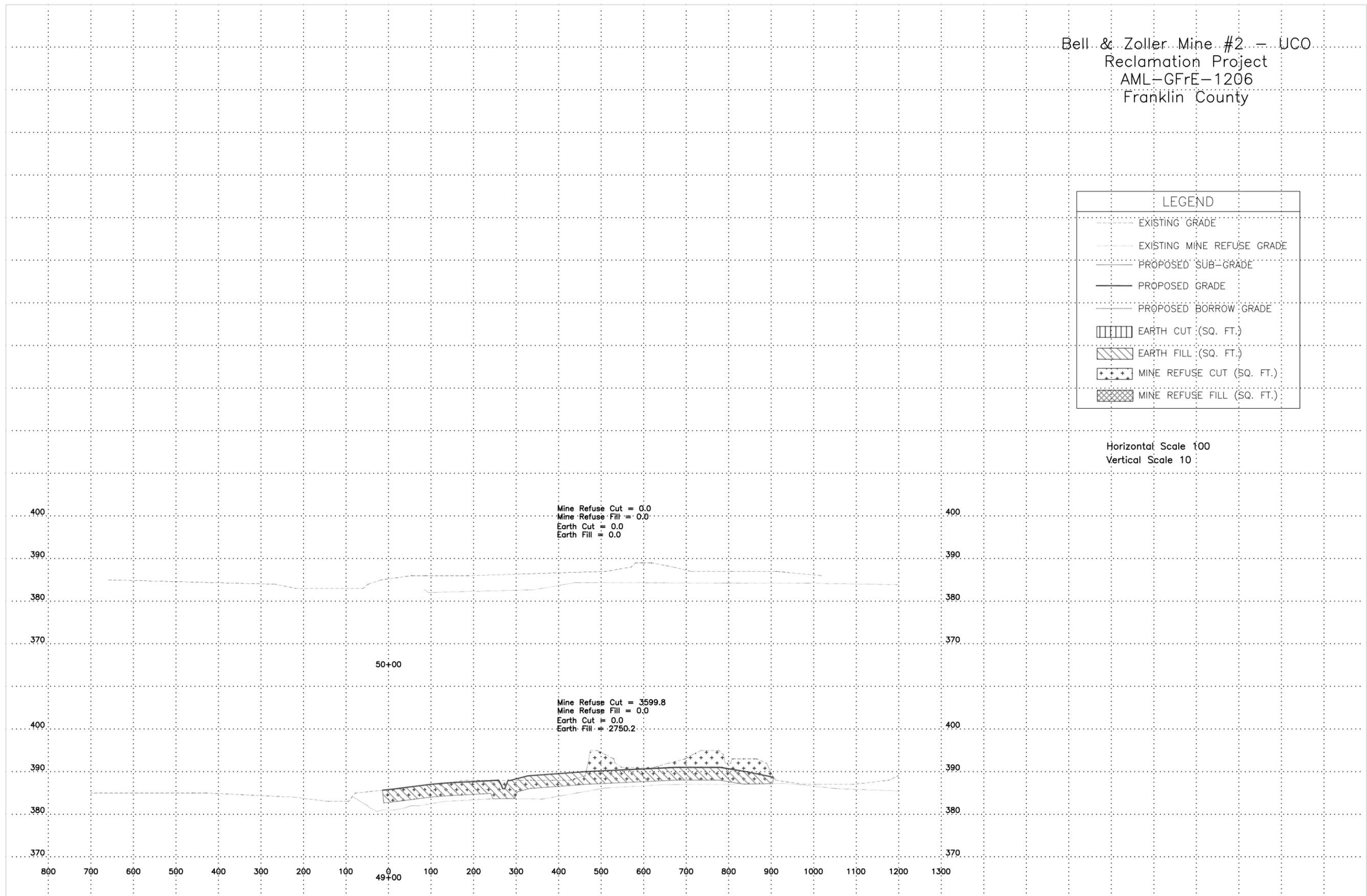
Horizontal Scale 100  
 Vertical Scale 10



Bell & Zoller Mine #2 - UCO  
 Reclamation Project  
 AML-GFrE-1206  
 Franklin County

| LEGEND                                                                              |                            |
|-------------------------------------------------------------------------------------|----------------------------|
|  | EXISTING GRADE             |
|  | EXISTING MINE REFUSE GRADE |
|  | PROPOSED SUB-GRADE         |
|  | PROPOSED GRADE             |
|  | PROPOSED BORROW GRADE      |
|  | EARTH CUT (SQ. FT.)        |
|  | EARTH FILL (SQ. FT.)       |
|  | MINE REFUSE CUT (SQ. FT.)  |
|  | MINE REFUSE FILL (SQ. FT.) |

Horizontal Scale 100  
 Vertical Scale 10

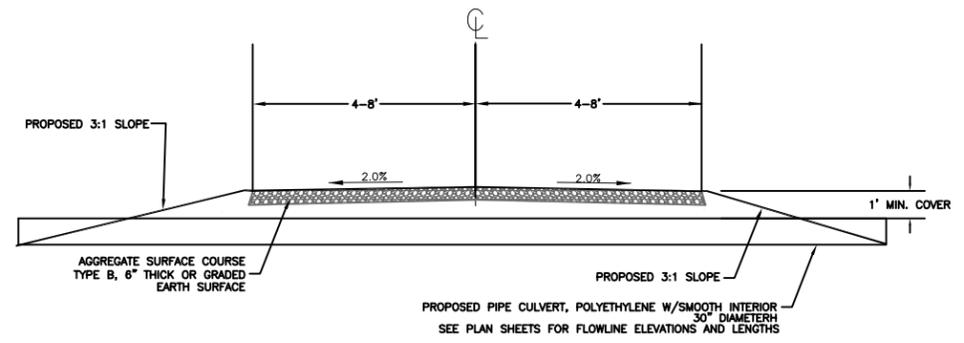


1.5" 3.5"  
 1.5" 3.5"  
 1.5" 3.5"  
 1.5" 3.5"  
 3.5" 3.0"  
 3.5" 2.5"  
 1.5" 2.5"  
 3.5" 2.0"  
 1.5" 2.0"  
 2.0" 2.0"

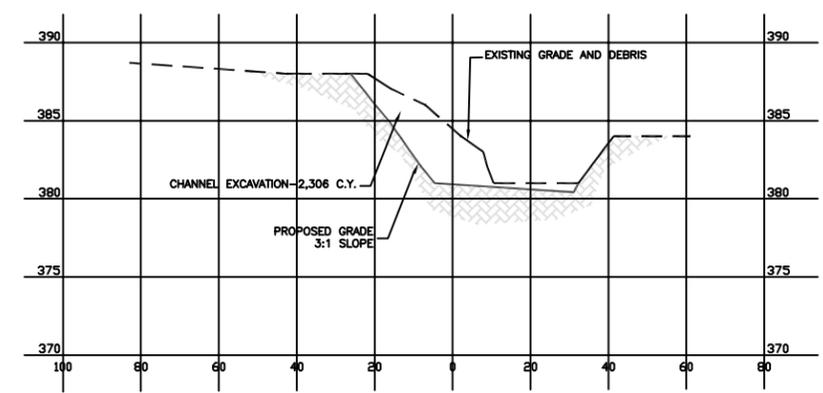
RECLAMATION PROJECT  
 of the  
 DEPARTMENT OF NATURAL RESOURCES  
 STATE OF ILLINOIS  
 PAT QUINN, GOVERNOR  
 Marc Miller, Director  
 Illinois Dept. of Natural Resources  
 In cooperation with the Office of Surface Mining  
 United States Department of the Interior

1. Furnishing, erecting and removing the sign shall be incidental to the contract.
2. The sign shall be painted on 1/2" or thicker exterior plywood (4' x 8'), color shall be black on white.
3. The posts shall be made of 4" x 4" wood or 2.5" metal pipe, and shall be 10' long. The sign shall be securely fastened to the posts with six 2.5" long, round head wood screws (for wood posts) or four 5" long, 3/8" diameter carriage bolts (for wood or metal posts).
4. The top of the sign shall be level with the top of the posts, and the posts shall be 1' from the edges of the sign. The posts shall be set in the ground 3', so that the bottom of the sign is 3' from the ground.

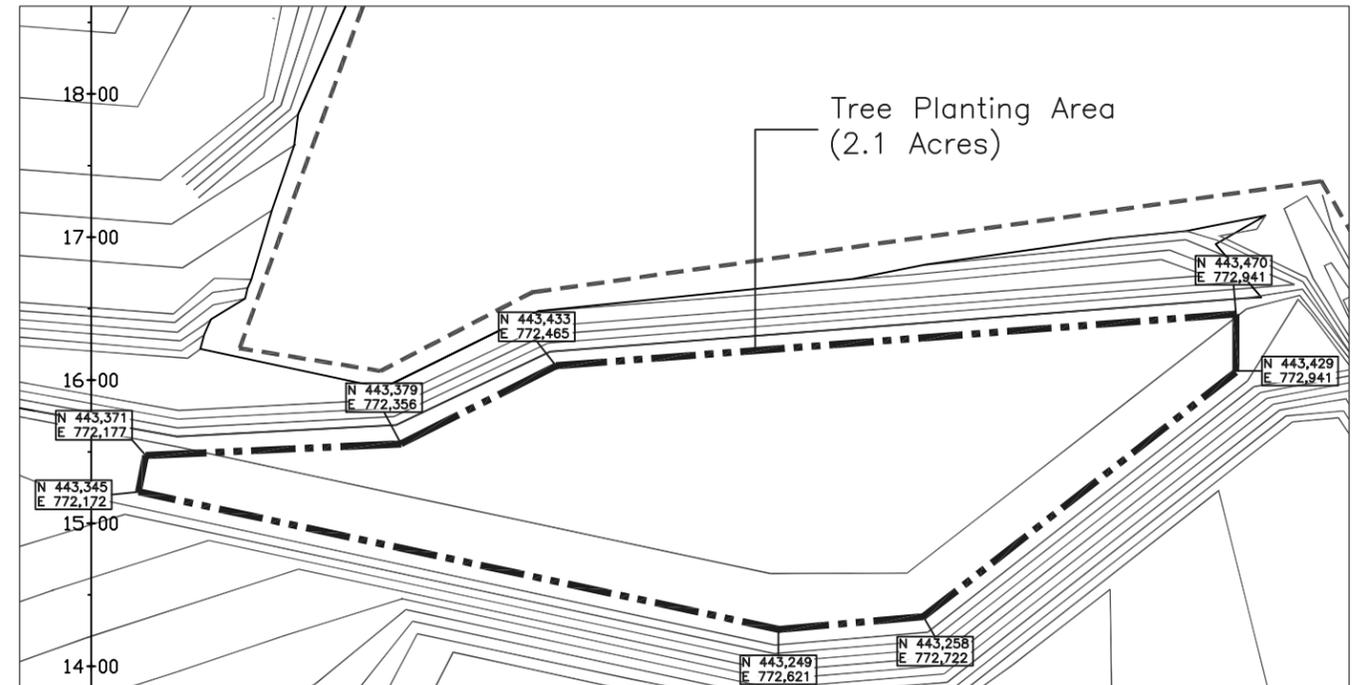
CONSTRUCTION SIGN DETAIL  
 DETAIL A-38, NOT TO SCALE, EXACT LOCATION TO BE SET BY ENGINEER



TYPICAL CULVERT DETAIL  
 DETAIL B-38, NOT TO SCALE



TYPICAL CHANNEL EXCAVATION DETAIL  
 DETAIL C-38, NOT TO SCALE, SEE SHEET 12 FOR LOCATION



SEEDLINGS

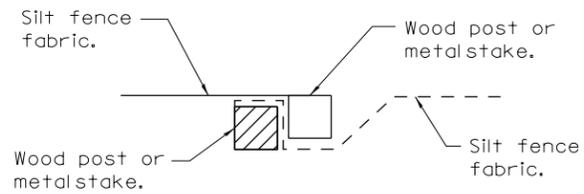
1. The tree seedling planting and care shall be in accordance with the IDOT Standard Specification 253 - Planting Woody Plants and the IDOT Supplemental Specification for Section 253, except the Contractor will place the marking flags and outline the area for planting.
2. Seedling spacing shall be ten (10') feet center to center and alternate rows staggered, requiring eleven (11) units or 1,100 seedlings.
3. The following varieties of seedlings shall be planted:
  - ▶ Hackberry 220 TREES
  - ▶ Sycamore 330 TREES
  - ▶ Silver Maple 110 TREES
  - ▶ Pin Oak 110 TREES
  - ▶ Willow 55 TREES
  - ▶ Green Ash 110 TREES
  - ▶ River Birch 110 TREES
  - ▶ Sweet Gum 55 TREES

State of Illinois  
 Department of Natural Resources

Bell & Zoller Mine #2 - UCO  
 Reclamation Project  
 AML-GFRE-1206  
 Franklin County

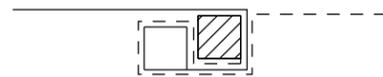
Drawn By: JMB Date: 07-18-2012  
 Checked By: M.T. 8/2012

Details and Tree Seedling  
 Planting  
 Sheet 38 of 38



Place end-post (stake) of first silt fence adjacent to end-post (stake) of second silt fence with fabric positioned as shown.

**STEP 1**

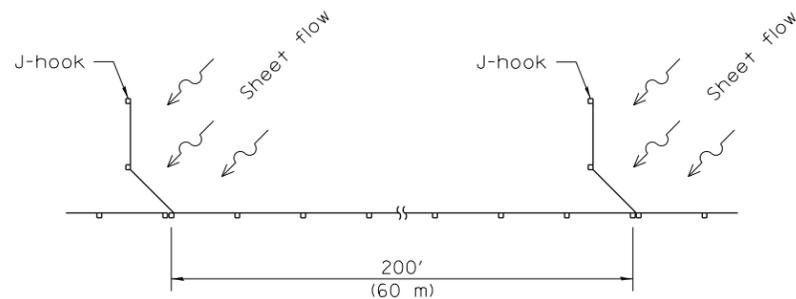


Rotate posts (stakes) together 180° clockwise and drive both posts (stakes) 18 (450) into ground.

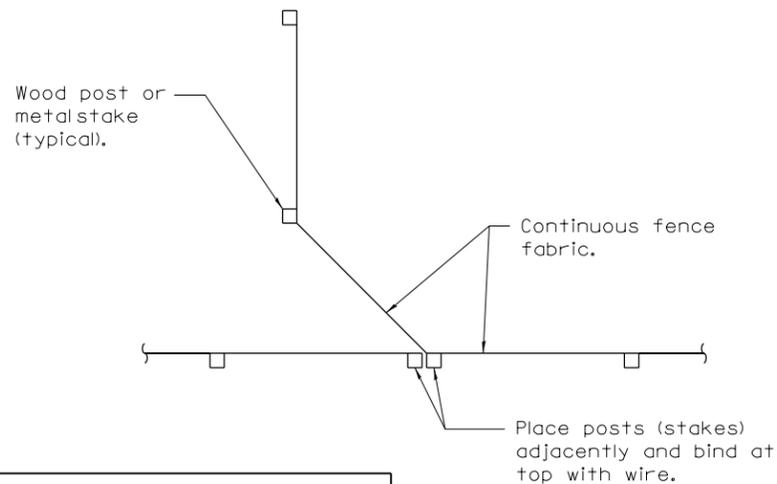
**STEP 2**

**ATTACHING TWO SILT FILTER FENCES**

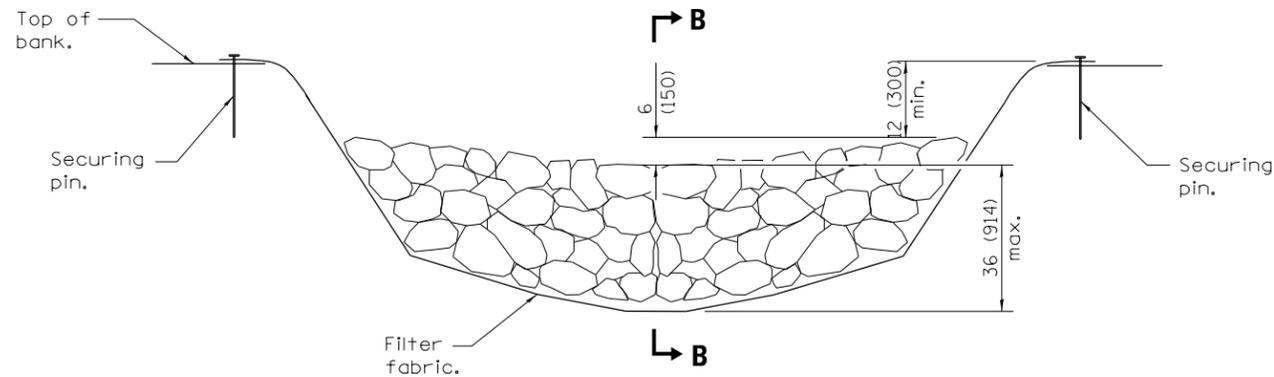
(Not applicable for J-hooks)



**SILT FILTER J-HOOK PLACEMENT**

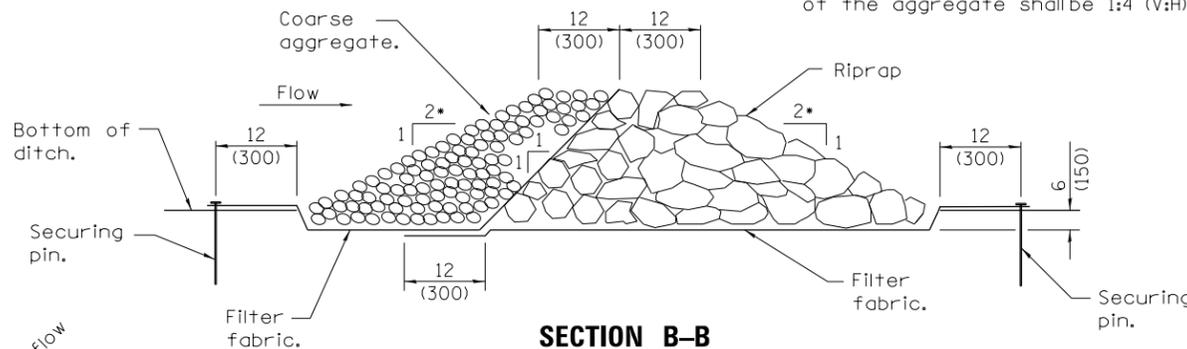


**J-HOOK**



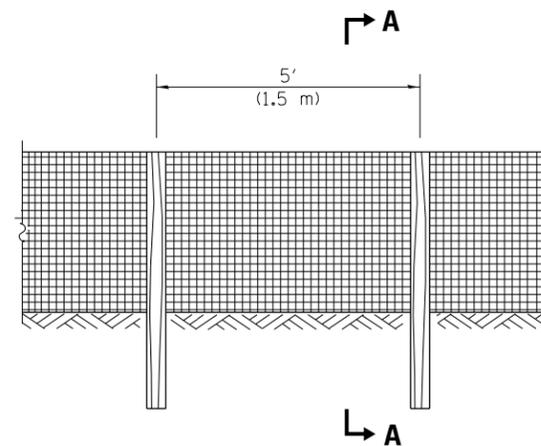
**ELEVATION**

• When the ditch check is within the clear zone and the road is open to traffic, the traffic approach slope of the aggregate shall be 1:4 (V:H).



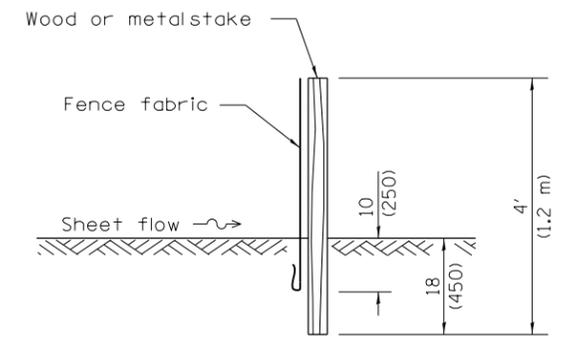
**SECTION B-B**

**AGGREGATE DITCH CHECK**

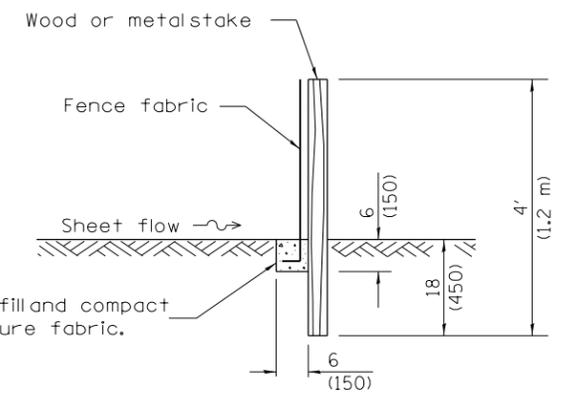


**ELEVATION**

**SILT FILTER FENCE AS A PERIMETER EROSION BARRIER**



**SLICE METHOD**



**TRENCH METHOD**

**SECTION A-A**

Excavate, backfill and compact trench to secure fabric.

**GENERAL NOTES**

The installation details and dimensions shown for perimeter erosion barriers shall also apply for inlet and pipe protection.

All dimensions are in inches (millimeters) unless otherwise shown.

| DATE   | REVISIONS                                                               |
|--------|-------------------------------------------------------------------------|
| 1-1-12 | Omitted hay/straw perimeter barrier. Added SLICE METHOD to SECTION A-A. |
| 1-1-10 | Added J-hooks, added Two Fence attachment detail, mod. ditch check.     |

**TEMPORARY EROSION CONTROL SYSTEMS**

(Sheet 1 of 2)

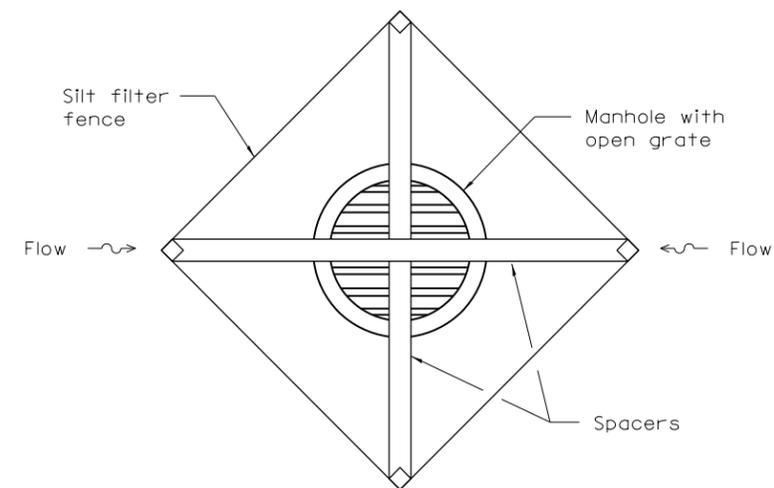
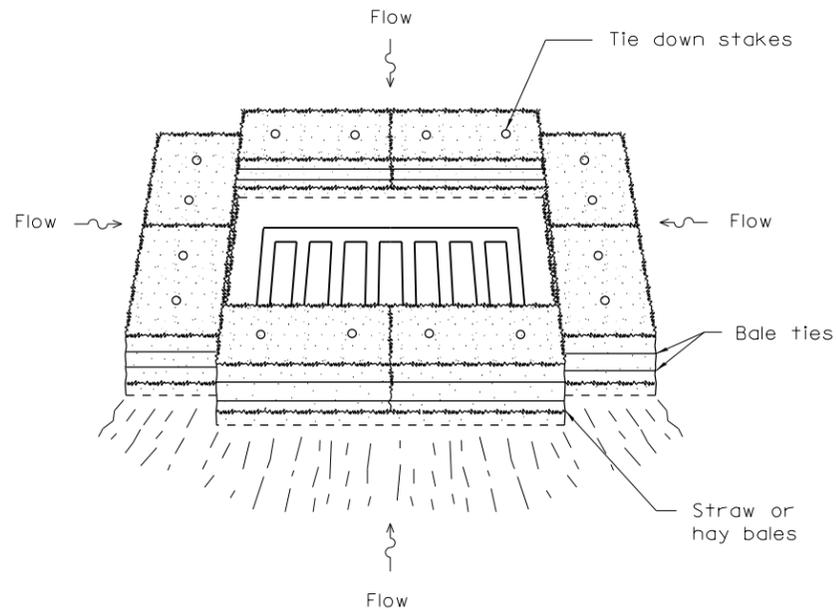
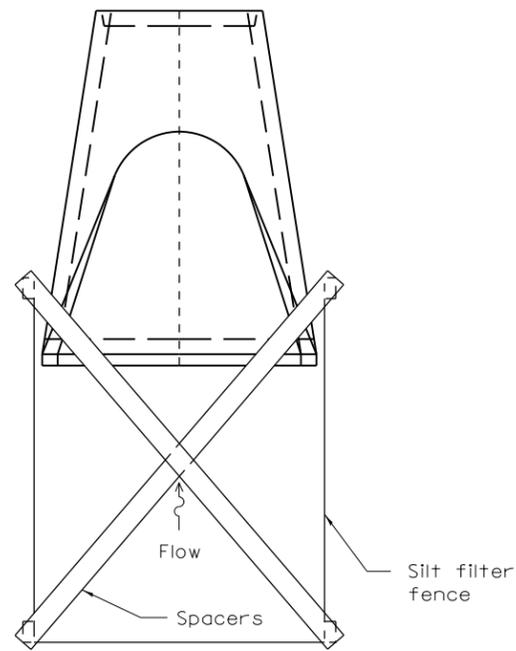
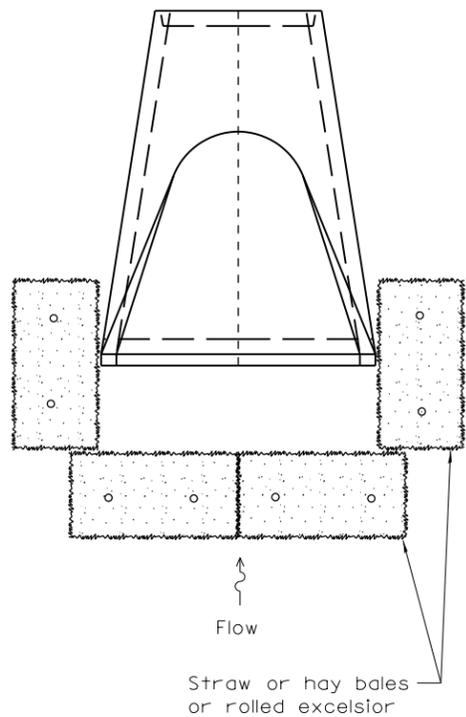
**STANDARD 280001-06**

Illinois Department of Transportation

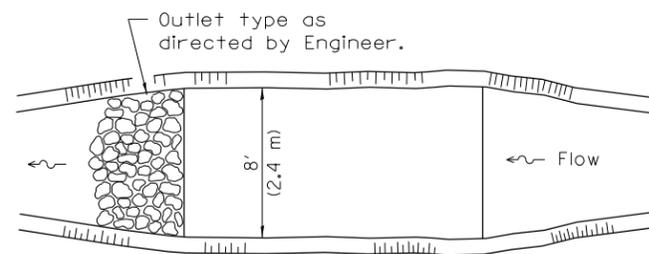
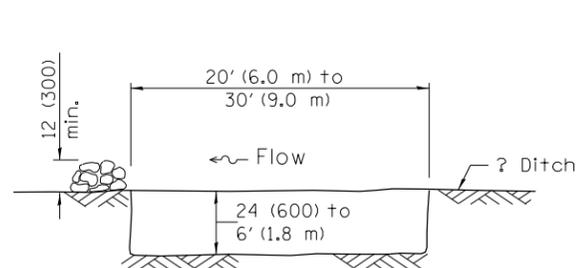
PASSED January 1, 2012  
*Michael Beard*  
 ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2012  
*Scott Esch*  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97



**INLET AND PIPE PROTECTION**



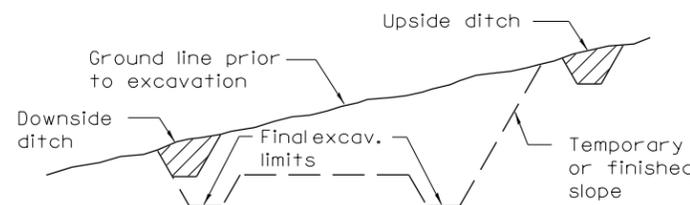
The performance of the basin will improve if put into a series.

**ELEVATION**

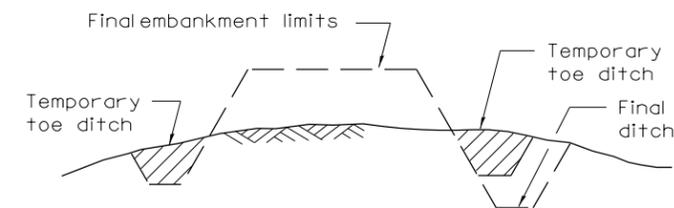
The long dimension should be parallel with the direction of the flow. Accumulated silt shall be removed anytime the basins become 75% filled.

**PLAN**

**SEDIMENT BASIN**



**TYPICAL CUT CROSS-SECTION**



**TYPICAL FILL CROSS-SECTION**

**TEMPORARY DITCHES FOR CUT & FILL SECTIONS**

|                                                                                               |               |
|-----------------------------------------------------------------------------------------------|---------------|
| Illinois Department of Transportation                                                         |               |
| PASSED <u>January 1, 2012</u><br><i>Michael Beard</i><br>ENGINEER OF POLICY AND PROCEDURES    | ISSUED 1-1-97 |
| APPROVED <u>January 1, 2012</u><br><i>Scott Esdaile</i><br>ENGINEER OF DESIGN AND ENVIRONMENT |               |

|                                                            |
|------------------------------------------------------------|
| <b>TEMPORARY EROSION CONTROL SYSTEMS</b><br>(Sheet 2 of 2) |
| <b>STANDARD 280001-06</b>                                  |